

How D&H Trains
Supervisors

July 28, 1958

RAILWAY AGE *weekly*



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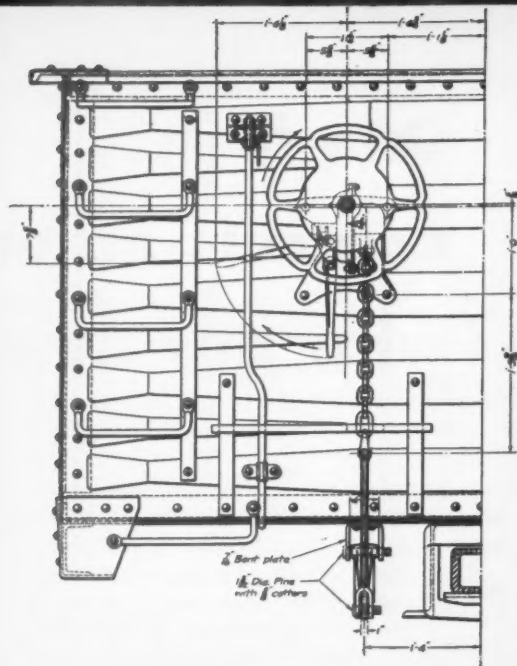
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AT ALL POSITIONS OF THE WHEEL**

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CHICAGO**

One man controls an entire railroad with this new traffic control center

Here's the latest in railroad traffic control: it's Union Switch & Signal's new *miniature* Traffic Control Center. It puts control of an entire railroad at arms reach. And this new control center can be applied to all types of interlockings, as well as to CTC: it can be used with any existing control system. This new control center can *multiply* efficiency and save valuable space.

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Could RRs meet a war crisis?p. 9

Railway Age survey finds the nation's railroads ready to repeat their highly-praised performance of World War II, if necessary. But further deterioration of the industry's already-weakened economic position could change the picture.

How the D&H trains supervisorsp.14

The road's three-part plan to develop management skills has been under way for 2½ years. Nearly 200 of some 250 eligible employees have taken part. Here's why the D&H thinks it—and its employees—are benefiting from the project.

New EMD locomotive controls cut costsp.18

The new all-electric devices replace the old pneumatic equipment. Maintenance and repair of the old-type controls had become large cost items. The new locomotive components are simpler, lighter in weight, easier to apply.

How RR 'cops' save your moneyp.22

Want to know what railroad police do? Last year, for one example, MP agents recovered property worth over \$83,000. But that figure doesn't tell the whole story, not by a long shot. Solving crime is important, but crime prevention is equally vital.

New ideas to control wheel slipp.23

Sand, or something similar, is the most effective means of controlling wheel slip. The cost, however, is considerable. A momentary, light application of the locomotive brake, without use of sand, is also effective. This Swiss Federal Railways method may be adaptable to U.S. equipment and conditions.

Steam vanishes from N&W passenger runsp.30

Leased diesels have replaced steam locomotives on Norfolk & Western "name" trains, wiping out the last big pocket of passenger steam power in the U. S.

Transportation act now set for final approvalp.32

A conference committee has reconciled the Senate and House bills. The final version should come up for approval this week. The bill retains provisions giving the ICC additional power over intrastate rates and new power over abandonments.

The Action Page—Major help from suppliersp.36

Political action put railroads behind the 8-ball. Only political action can remove them from that position. In this fight, railroad managements' strongest allies are their suppliers and supply company employees.

No matter what others may claim for their equipment, THIS FACT REMAINS...

... rather conclusive evidence, we believe, that in the opinion of the vast majority of leading track chiefs there is nothing that equals the Jackson Track Maintainer for the dual purpose of production tamping and maintaining track of finest quality under all conditions. The more carefully you compare the more convinced you will be that Jackson is your best buy!

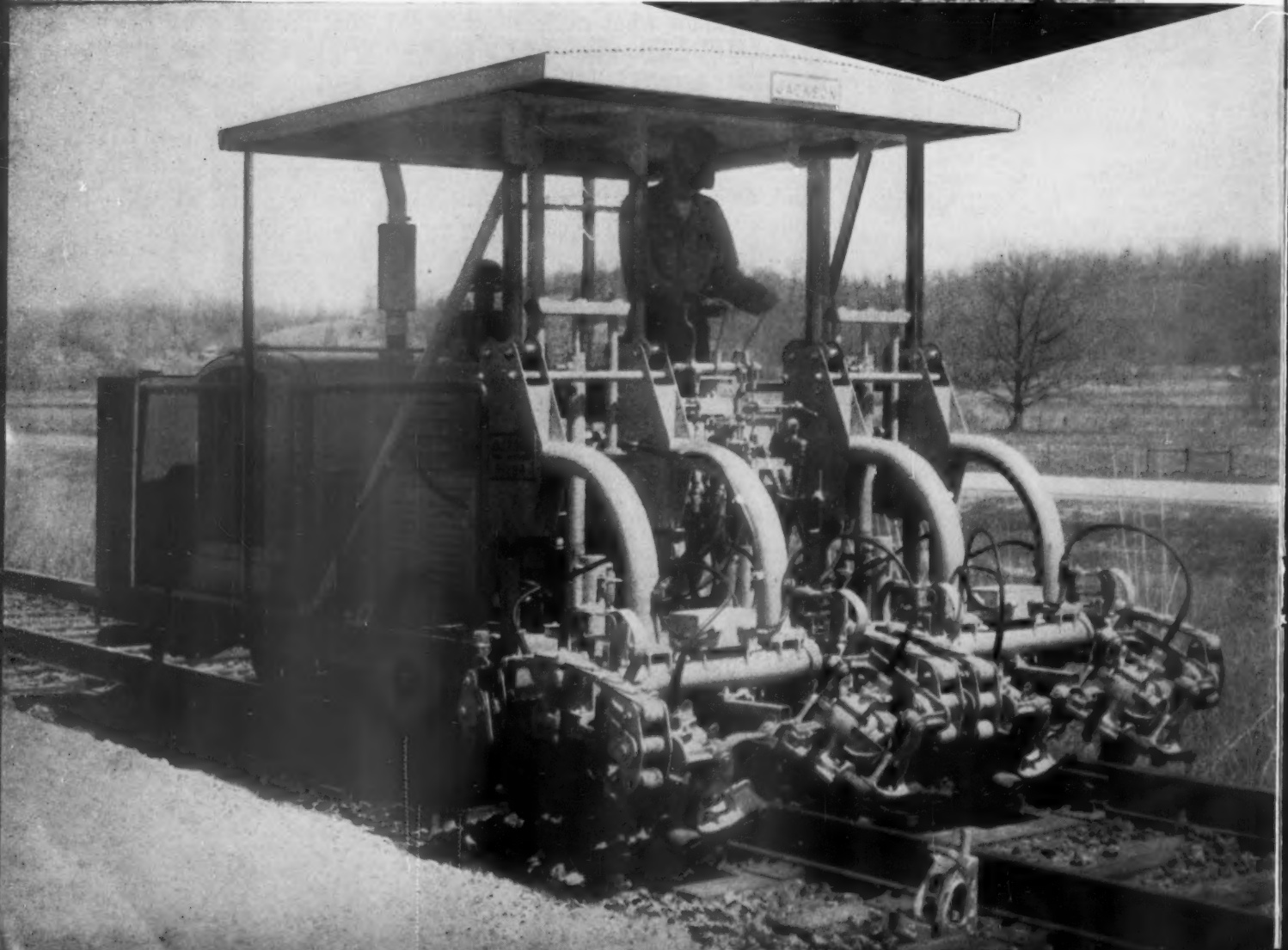
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JACKSON TRACK MAINTAINERS

**IN OPERATION THAN
ALL OTHER TAMPERS
IN ITS CATEGORY**



Week at a Glance CONT.

Current Statistics

Operating revenues, five months	
1958	\$3,742,445,707
1957	4,372,199,515
Operating expenses, five months	
1958	\$3,105,229,185
1957	3,429,202,093
Taxes, five months	
1958	\$349,526,238
1957	455,383,410
Net railway operating income, five months	
1958	\$165,531,685
1957	376,481,033
Net income estimated, five months	
1958	\$72,000,000
1957	285,000,000
Average price 20 railroad stocks	
July 22, 1958	85.35
July 23, 1957	95.26
Carloadings revenue freight	
Twenty-eight wks., 1958	15,247,258
Twenty-eight wks., 1957	19,068,329
Average daily freight car surplus	
Wk. ended July 19, 1958	101,902
Wk. ended July 20, 1957	15,703
Average daily freight car shortage	
Wk. ended July 19, 1958	178
Wk. ended July 20, 1957	1,730
Freight cars on order	
July 1, 1958	27,757
July 1, 1957	91,810
Freight cars delivered	
Six months, 1958	29,545
Six months, 1957	52,521

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Short and Significant

A propeller-driven train . . .

that could accelerate from a standstill to 115-mph in 7,000 ft may be in the works. The Pennsylvania says only that it is discussing with Curtiss-Wright Corp. the "possibility of designing a high-speed train for service between New York and Washington." Other reports say the proposed new train would be powered by the 3,000-hp Wright turbo-compound engine, which would drive propellers with reversible-pitch characteristics that could be used for braking. Such a train, say these reports, would make the New York-Washington run in two hours and 40 minutes. Present schedule of the crack "Congressional" is three hours and 25 minutes.

The Brotherhood of M/W Employees . . .

feels it's free now to move "in whatever direction is necessary" to back up demands for work-rules changes served on the individual carriers more than a year ago. No settlement has been reached; at issue, it's reported, is the question of whether the brotherhood's demands are in conflict with the terms of the three-year moratorium agreement. A brotherhood officer said a ballot distributed to the membership has authorized suspension of work if such a step is deemed necessary.

Five Chicago commuter lines . . .

have taken a stand against subsidy—but they do see a definite need for more regulatory freedom and especially for faster commission action on fare and service requests. The five roads—Northwestern, Rock Island, Illinois Central, Burlington and Milwaukee—presented their views before the Illinois commission on Mass Transportation. (Some hard-pressed Eastern roads have suggested public subsidy as the only way to keep some commuter lines going.)

Railroads will appeal an \$852,074 damage judgment . . .

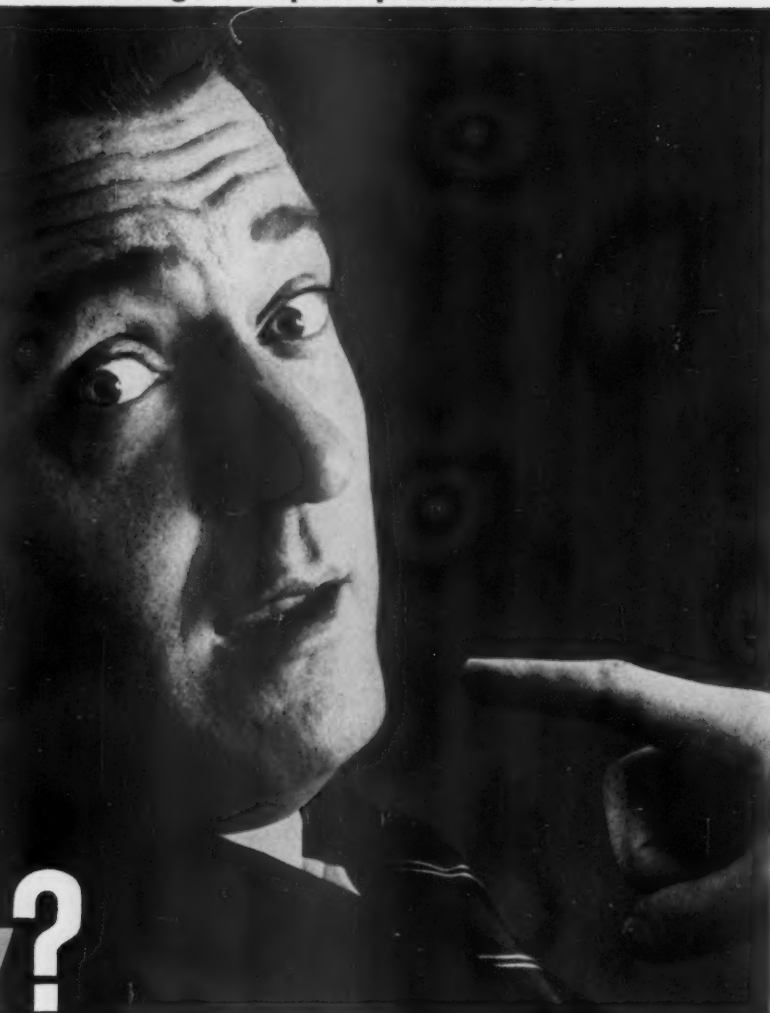
awarded by the U. S. District Court in Philadelphia to the Pennsylvania Motor Truck Association last week. The ruling climaxed a five-year-old suit by long-haul trucking interests against 24 Eastern railroads, the Eastern Railroad Presidents Conference, and Carl Byoir & Associates, Inc., a New York public relations firm.

The truckers charged the railroads . . .

with conspiring to destroy truck competition in the long-haul transportation field. Last December, nominal damages were awarded to each of the 40 trucking companies involved. The new ruling awarded additional damages to the PMTA for "a campaign of self-defense" against the railroads. It includes treble damages of \$652,074, lawyers' fees of \$200,000 and an injunction that the defendants refrain from continuing practices that the judge found violated the anti-trust laws.

in person . . . in displays . . . in advertising . . . in special promotions . . .

**HOW
MANY
TIMES
HAVE
YOU
ASKED
FOR
THE
ORDER
LATELY?**



**get
the goods
and then
go get
the sale !**

Let's face it—the honeymoon is over! The word “sell” is back!

And don't blame the times! You're living in a growing America! Between now and 1975, there will be more people . . . more jobs . . . more income . . . more production . . . more saving . . . more research . . . and more needs than ever before in our history.

The business is there! BUT . . . *you* have to go get it! It might take a little personal attention. It might take a special promotion or store display. It might mean more—and better—advertising. It certainly means *asking* for the order!

Check your stock. Bring it up-to-date! Then do the same with your selling ideas! The results will astound you!



FREE! Get going today! Write at once for illustrated “How To Turn the Tide” booklet offering valuable and vital selling ideas. The Advertising Council, 25 West 45th Street, New York 36, New York.

YOUR FUTURE IS GREAT IN A GROWING AMERICA

Could RRs Meet a War Crisis?

The railroads are prepared to cope with any national emergency that might arise, Railway Age survey indicates. The question: how long can they maintain this state of readiness under present economic conditions?

"The railroads of the United States . . . are as much a part of the military strength of the nation as our Army, Navy, Air Force and Marines, because none of these great armed services could long operate without the logistical support which railroads provide."—Gen James A. Van Fleet, Commander, U. S. 8th Army, Korea.

Are America's railroads ready to perform the gigantic transportation tasks another major national defense effort would require?

In a time of international crisis, the question was bound to arise. Last week Railway Age editors went looking for the answer.

That answer seemed to be, "Yes, but—" From interviews with top industry spokesmen and a statistical study of the nation's railroad plant as it stacks up today against the crisis years of 1941 and 1950 (see charts), this was the picture:

Yes, railroads could, if necessary, repeat their World War II performance—when they transported 90 per cent of the equipment and supplies for the armed forces.

• "Despite present financial stringencies and problems of the railroads," said AAR President Daniel P. Loomis, "in an emergency it would be found that railroads would meet the essential crisis as they have in the past."

• "The national railroad plant," asserted Clair M. Roddewig, president of the Association of Western Railroads, "has never had as high a capacity potential as it has today."

• The supply industry, declared Holcombe Parks, president of the Railway Progress Institute, is "ready to go on a 24-hour a day basis if necessary to keep the railroads going."

Actually, the railway plant that would have to cope with any new national emergency is by and large smaller than the comparable plant of 1941 or 1950—but it is also more efficient.

This is because some \$14 billion has been poured into post-World War II capital improvements—despite a deteriorating earnings position.

Improvements like dieselization, c.t.c., pushbutton freight yards, elimination of curvature, and reduction of grades enable railroads to run their trains at higher speeds, with heavier loads, and with fewer delays.

But—it's a question how long this state of readiness can be maintained unless railroads (many of which are now operating in the red) can improve their earnings position and find the capital to continue to pour into new physical improvements.

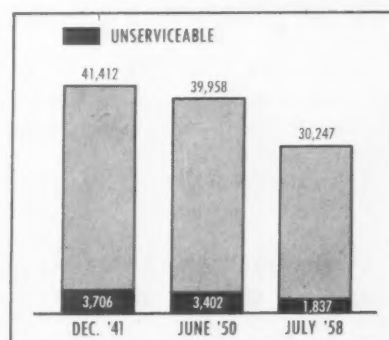
The question of mobilization was, of course, still an academic one last week.

The only tangible evidence that a crisis existed at all insofar as the railroads were concerned, was a hurried query from Washington: "Can the railroads move a division of troops across the continent on short notice." (The reply: "Yes.")

But the current crisis seemed a good time to take stock of the railroad situation.

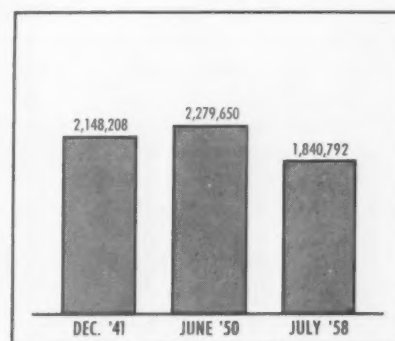
Locomotives.—The U.S. has fewer to-

Locomotive Units

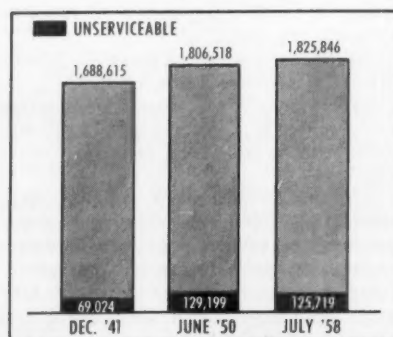


Tractive Effort

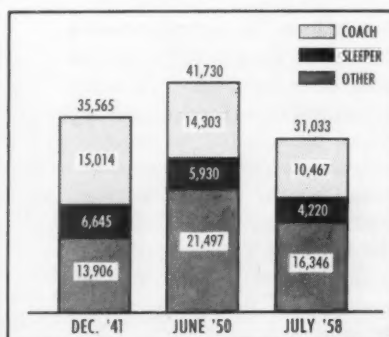
(Thousands of Pounds)



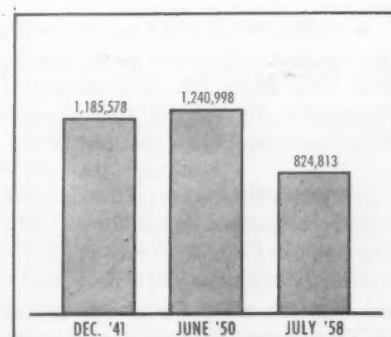
Freight Cars



Passenger Cars



Employees



day than in 1941 or 1950. They are mostly diesels, which have higher average tractive effort and greater availability than steam, but total tractive effort available is lower than in the past.

In 1941, the nation's locomotive fleet of 41,412 units was 95 per cent steam. Almost 9 per cent of the total was unavailable for service because of the need for repairs or for other reasons. The average steam locomotive's tractive effort was 51,592 lb, while the diesel's average was 54,316 lb.

In 1950, trains were still almost 75 per cent steam powered. The percentage of unserviceable locomotives had dropped

slightly as the number of diesels increased. A total of 39,958 units were put together to make 36,000 locomotives.

Today, U. S. railroads are 91 per cent dieselized, 7 per cent steam powered and 2 per cent electrically powered. (Most of the still-available steam is being held in reserve against possible emergency use). Twenty-six per cent of the remaining steam locomotives are unserviceable. The diesel bad order ratio is 4 per cent.

Freight cars.—Revenue freight car ownership increased from 1,688,615 on Dec. 1, 1941, to 1,806,518 on June 1, 1950, and 1,825,846 in June, 1958. The average freight car capacity increased from 50.40

tons in 1941 to 52.51 tons in 1950, and is now 54.70 tons. There were 69,024 cars awaiting repairs in December, 1941; 129,199 in June, 1950; and 125,719 in July, 1958. (Later estimates place the July figure at 136,785 for a bad order ratio of 7.50, compared with 7.15 in June, 1950, and 4.10 in Dec., 1941.)

Over 54 per cent of the current freight car fleet is over 20 years old. The comparable percentage was 52.99 in 1950 and 40.91 in 1941. There are now 32,939 new cars on order, compared with 40,122 in 1950 and 73,697 in 1941.

"In assessing the readiness of the railroads to do their share in meeting a national emergency," says Mr. Loomis, "account should be taken of the fact that the roads now have a surplus of 100,000 serviceable cars, besides those cars awaiting repairs, the major part of which can be made serviceable as need develops and revenues increase. Under emergency conditions, moreover, the utilization of cars by both shippers and by carriers would be materially intensified and improved."

Passenger cars.—The passenger car fleet as a whole has declined—from 35,565 units in December 1941 to 31,033 units today. Coaches comprise 83.7 per cent of the present fleet, sleeping cars 13.6 per cent.

The bad order ratio of passenger cars is 5.27 per cent—compared with 6.36 per cent in 1950 and 2.82 per cent in 1941.

The number of new passenger cars on order reflects the serious financial losses passenger service is suffering: it is now 102 cars, compared with 483 in 1950 and 305 in 1941.

In any long-distance troop movements, Pullman cars are of paramount importance. Today the railroads could move as many as two Army divisions (35,000 to 40,000 men) without great difficulty. In addition, there are 1,222 high-capacity sleeping cars stored on government property around the country. Not immediately available, these could be put into service on short notice.

Manpower.—The railroads today employ only about two-thirds as many people as in 1941 and 1950—but many furloughed employees could be called back to work in an emergency.

Gen. Brehon Somervell, commander of Army Service Forces in World War II, has said: "We in the armed forces think of transportation as a military tool—a weapon as important as the very tank or gun it transports from factory to fighting front. It is no exaggeration to say that railroads are war roads."

As former Defense Transport Administrator J. Monroe Johnson put it:

"There is only one mass transportation—the railroads . . . You cannot go to war without them for war is mass transportation."

Like other Americans, railroad men were hopeful last week that they would not soon be called upon again to match their strength against the demands of another emergency. But they could take pride in knowing that they could still measure up to the task.

Watching Washington *with Walter Taft*

• **THE ICC EXPECTS** its credit rules to be observed around August 1, when repeal of the 3% tax on freight charges becomes effective. The repealer provides that the tax will not be collected on freight bills paid on or after the 1st. The commission notified the carriers of its expectations after the Bureau of Internal Revenue ruled that date of payment will be the only test of whether the tax is due, delinquency being irrelevant.

CARRIERS AND SHIPPERS ARE URGED by the commission to be "particularly vigilant" in avoiding credit violations during the period of transition to repeal. Credit rules applicable to railroads require generally that freight bills be collected within a maximum of four days after presentation. And they must be presented as promptly as practicable. Rules applicable to truckers permit collection to be delayed more than two weeks.

• **THE NIT LEAGUE WANTS** the ICC to end rate-structure anomalies which tolerate commodity and exception rates higher than class rates. This situation resulted from the uniform classification and 28300 class-rate adjustment which became effective in 1952. Thereafter the commission allowed the railroads five years to bring it into line with its general rule that commodity and exception rates higher than class rates are prima facie unreasonable. Showings to that effect have brought reparations awards since the end of the five-year period. But the League complains because they involve shippers in formal proceedings, delays and expense.

AN ALTERNATIVE RULE is what the League asks the commission to require of the railroads. It would provide for application of the uniform classification and 28300 rates when they would make charges lower than those accruing under applicable exceptions and commodity rates. Alternation is now precluded by an item in the 28300 tariffs. The League's plea reports that many of the anomalies remain, despite its activity in urging the railroads to complete the work of eliminating them.

• **AIR-LINE FARES** are still holding the price line. The average revenue per passenger-mile of the regularly-scheduled domestic lines in 1957 was less than ½% above the 1942 average—5.3 cents compared with 5.28 cents. Meanwhile, the railroad average, excluding commutation service, was up 47½%—from 2 cents to 2.95 cents.

THE YIELD from railroad parlor-car and sleeper services averaged 3.68 cents per passenger-mile in 1957—up 53.3% from 1942's 2.4 cents. The Pullman Company's take in 1957 averaged 1.522 cents. Thus, last year's traveler in first-class rail service paid a total of 5.2 cents, a tenth of a cent less than the composite air-line average. However, the average yield from 1957's air-coach fares was a cent lower—4.25 cents.



Hub of the Southern Railway System—new Inman Yard, Atlanta, Georgia. (Prints of this painting suitable for framing available on request).

STANDARDIZED FREIGHT CARS HELP SOUTHERN VISION COME ALIVE

The Southern's new Inman Yard is an outstanding example of the dynamic vision of America's railroads. 6,000,000 cubic yards of earth and rock—enough to make an acceptable mountain—were moved to make way for the most modern yard on the Southern System. Radio and radar control 65 classification tracks for the rapid sorting of cars for various destinations.

Progressive operations like this produce fast, precise schedules around the clock. Rolling stock must be highly dependable, on the job day-after-day . . . railroad revenues rest on it. For this reason the Southern—and over 100 other prominent users—relies heavily on Pullman-Standard Standardized Freight Cars. They know

whatever service demands they face, Pullman-Standard equipment will give them the fine performance, uncommon versatility and measurable economies they must have.

The benefits your railroad can gain through P-S rolling stock standardization are completely detailed in brochures on each of these P-S Freight Cars: PS-1 Box Car, PS-2 Covered Hopper, PS-3 Open Hopper, PS-4 Flat Car and PS-5 Gondola. Write for your copies.

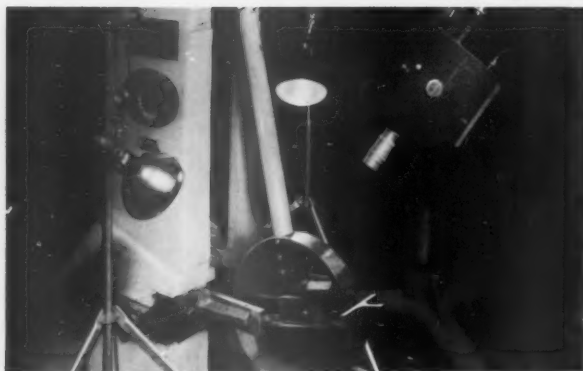
*Pullman-Standard Car Manufacturing Company
200 South Michigan Avenue, Chicago 4, Illinois*



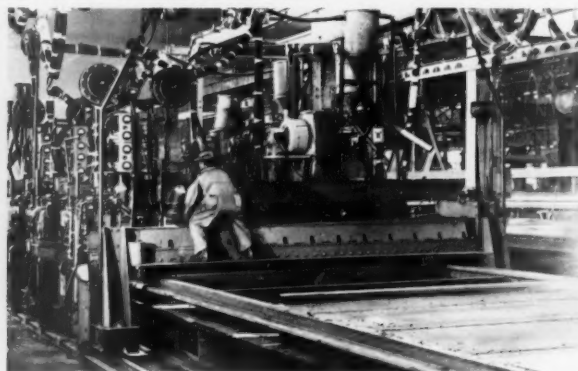
**Standardization
gives P-S
rolling stock
a built-in
performance bonus**



Standardized production is the key to the many benefits offered by Pullman-Standard rolling stock: low first cost, low maintenance service, uncommon versatility and shipper acceptance. These strings of PS-1 Box Cars, destined for the G. M. & O., symbolize the mass building methods that produce these important benefits.



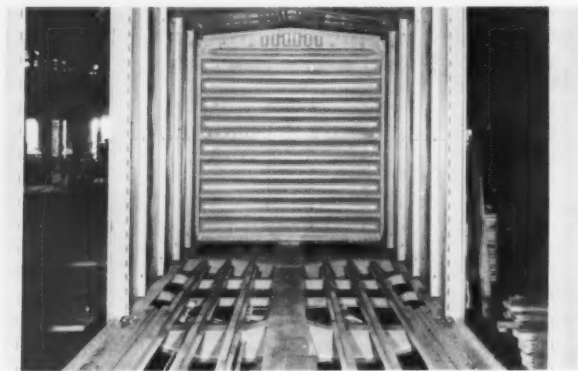
Nothing is left to guesswork by Pullman-Standard's Research and Development staff. Here high-speed movie equipment makes a film record of low temperature behavior of fillet welds under tension impact.



Pullman-Standard welding research has led to outstanding automatic welding developments. Shown here, Pullman-Standard developed equipment that automatically arc welds complete box car sides.



P-S Field Service Engineers make continuous performance studies of Pullman-Standard and other rolling stock to expose possible undesirable performance characteristics and confirm product design.



P-S standardization has produced many new, advanced design features. A number of these improvements—the six-stringer box car underframe, for example—have been adopted as industry standards.

Built to serve best on the
GREAT AMERICAN RAILWAY SYSTEM



PULLMAN-STANDARD

CAR MANUFACTURING COMPANY

SUBSIDIARY OF PULLMAN INCORPORATED

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BIRMINGHAM, PITTSBURGH, NEW YORK, SAN FRANCISCO

New Products Report



Aerial Bucket Lift

A twin-bucket aerial elbow can be used for pole line, overhead wire inspection and maintenance, or tree trimming. The double-armed, cable-controlled unit has direct-acting, aircraft-type controls. Hydraulic lines extend only to cylinders; no lines pass through hinged joint between upper and lower arms. Because control cables are under constant tension, control levers respond instantaneously. Three levers—controlling lower arm, upper arm and rotation—are located on support shaft of right-hand bucket. A vacuum control valve is coupled to the power take-off shifter linkage to prevent truck movement while elbow is in operation. An ignition cutout circuit insures both arms being nested in support brackets before truck can be moved. Holan elbow HD-2 has maximum ground-to-floor height of 36 ft 10 in., reaches 31 ft 4 in. horizontally, and will bend 8 ft 8 in. below ground level. Upper arm travels 270 deg; lower arm, 80 deg. Mast rotates 360 deg continuously in either direction. Work buckets, 22 by 22 by 38 in. deep, are made of non-conductive fiber-glass-reinforced plastic. *J. H. Holan Corp., Dept. RA, 4100 W. 150th St., Cleveland 35.*



Facsimile Unit

A complete facsimile transmitter and receiver unit, developed for transmission of information between freighthouses, operates over telephone lines. Unit handles copy up to size 8½ by 14 in. Two speed units provide letter-size copy in 6 min or 3 min. Telephone line frequency response requirements for low speed unit are 900-2,900 cps, for higher speed unit, 800-4,100 cps, both plus or minus 4 db. Maintenance is no more than with a TV set. *Electronic Communications Co., Dept. RA, 972 Broad St., Newark, N. J.*



Pressure Terminals

New production-line pres-SURE-terminals for stranded and solid wire, are available in three sizes: for wire sizes 22-16, 16-14 and 12-10. Quickly installed with either hand tools or press dies, the exclusive design of pres-SURE-crimp enables making solderless connections. These one piece terminals are all copper and hot electro-tin plated. They feature small overall size, wide bell-mouths, specially serrated barrels, and open-end construction. *Buchanan Electrical Products Corp., Dept. RA, Route 22, Hillside, N. J.*

Dispatcher Console

A new unitized dispatcher communications control console for desk mounting, T.D.-24, is designed to accommodate communications on up to 24 circuits. These could be comprised of dispatcher, selector magneto, phone, intercom and telegraph circuits. The console proper is designed to receive a modified 62-A ringing key mounted in the center section. Console is equipped with microphone, key circuits and necessary speakers. *Electronic Communication Equipment Co., Dept. RA, 1249 W. Loyola Ave., Chicago 26.*

D&H Helps Its Employees

Almost 200 Delaware & Hudson employees have benefited from the road's project to improve management skills. The project is designed for any employee responsible for the activities of employees subordinate to him.

The plan, a special baby of D&H President William White, has been under way for two and one-half years. Here's a progress report on the road's success with its effort to develop managerial timber.

The D&H plan has three parts:

Organizational formalization (including job descriptions and appraisals); after-

hour company classes; and college-level tuition refunds.

The reasoning behind D&H emphasis on management development was outlined by Vice President J. P. Hiltz, Jr., in one of the first management classes.

Manager's Job Is Complex

"The management job is becoming increasingly complex," Mr. Hiltz said. "It is larger in terms of number of activities and volume of work, broader in the nature of its responsibilities, subject to far more ex-

ternal influence and pressures than in the past, and much more exacting because of the broader impact of managerial decisions and activities."

This being true, railroads need managers who combine two skills: they must be specialists in railroading, and they must also understand managerial techniques and human relations.

"This is not," Mr. Hiltz told the first D&H students, "five easy lessons on how to be a general manager." Neither, he added, is it a direct ladder to promotion, nor a new kind of salary program.



D&H SUPERVISORS attend management education and development classes on their own time, come to Albany from

points as far away as Wilkes-Barre for the opportunity. Attendance is on a voluntary basis.

s Develop Management Skills

Mr. Hiltz objects to calling the project a "program" of any sort. "Program," he feels, has connotations of a short-term, "shot-in-the-arm" technique, while management development has to be carried out on a long-term, continuing basis.

It has been a long-standing D&H policy to promote from the ranks, a policy that Messrs. White and Hiltz want to continue. To assist in this, one of their first steps was to get under way a personnel inventory that would indicate the human resources available on the property.

As part of this, the Personnel Testing Laboratory of nearby Rensselaer Polytechnic Institute collaborated with the D&H in conducting "one-time" appraisals of management personnel based on self-analysis, supervisory ratings and a battery of tests. One of the tests in the battery purported to measure a supervisor's knowledge and insight about human relations in industry.

Only 30 per cent of the initial group of supervisors taking the test scored the national average or better.

Training courses were set up to improve all D&H managers' understanding of managerial techniques and human relations. Although the classes are voluntary, they have had an effect all over the railroad.

After the classes were underway, a second group of supervisors was given the RPI tests. Of this group, 52 per cent scored average or above in the test of supervisory knowledge.

How Job Descriptions Are Used

Major elements in management development are job descriptions and appraisals. These have two functions: job descriptions make clear to each supervisor what is expected of him, and appraisals point the way to improvement in job performance and self development for greater responsibilities.

The organization structure was charted and defined and a job description written for each managerial and staff position. At the same time, performance standards were considered. It is the continuing responsibility of every supervisor to see that charts and job descriptions are kept up to date.

Supplementing the information obtained from the RPI Personnel Testing Laboratory, which established a management personnel inventory as of a given date, the D&H set up a system of "Group Appraisals" to insure a continuing evaluation of management effectiveness.

A man's immediate supervisor and two other appraisers (one chosen by the man himself, one by the boss), work together. They evaluate the strong points of his work performance and, if necessary, try to suggest possible ways of improving performance or developing the man's potential.

Later, the subject of the appraisal sits down with his boss to discuss the results. A second meeting some time later checks on the progress made since the discussion.

Early this year, the D&H asked people who had been appraised what they thought of the process. Ninety per cent of the replies, which were anonymous, were favorable. Almost as many thought the appraisals should be continued.

Courses Cover Many Subjects

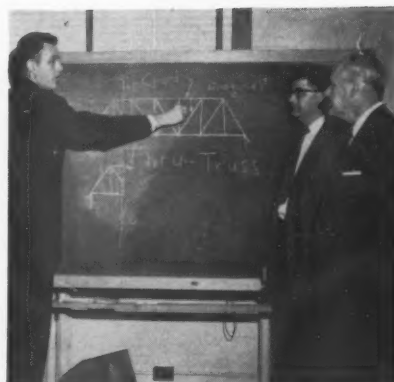
Since the development classes started, a variety of subjects have been covered: principles, skills and tools of management; planning and controlling in management; railroad accounting; air brake fundamentals; good telephone technique; good business writing; the transportation function; history of the labor movement; traffic department's function; construction and maintenance of track and roadbed; railroad signaling; indices in the national economy and the workings of the federal reserve and stock market; railroad law for the layman; public relations; and processes and facilities of the reproduction department.

Attendance at classes is on a voluntary basis. The D&H has been pleasantly surprised at employee response. Nearly 200 out of some 250 eligible have taken part, some coming to Albany from as far away as Wilkes-Barre, Pa.

A special room, set aside for classroom use, was fitted out with modern instructional aids. Instructors were drawn from railroad personnel.

The courses are not overly technical. Accounting, for example is covered in four hours. The railroad does not expect students to be accountants after a four-hour class. But it does want men from all departments to have a general knowledge of how their department expenses and/or revenues are accounted for so that they can expect better control in the area for which they are responsible.

A plan has been in effect for over a year to refund tuition paid by eligible personnel for evening courses in schools and colleges along the D&H line. The railroad requires that the courses be approved by



BASIC CONSTRUCTION of a "through-truss" bridge is explained by H. B. Clarkson, assistant to chief engineer.



VU-GRAPH a projector that can be drawn and written on while in operation, is one of the visual aids available for courses. R. J. D. Kelly, engineer, m/w, illustrates the difference between a "head-contact" and a "head-free splice-bar" during a coffee recess.

the department head and that the course be completed satisfactorily. Full tuition is paid for up to four school hours per week.

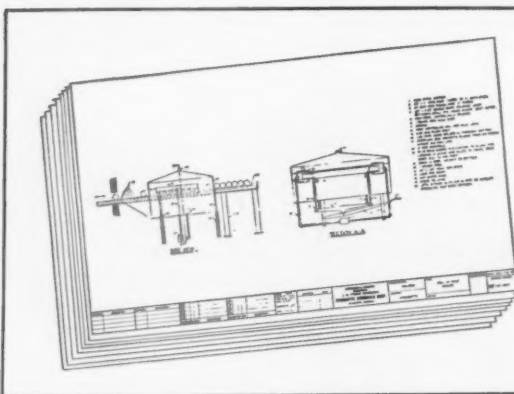
Over 40 people have enrolled at Russell Sage, Hartwick College, Rensselaer Polytechnic Institute, Broome County Technical School, Hudson Valley Technical Institute and others. The most popular courses are in various phases of business administration.

In another phase of management development, 26 people from the line have completed the management course of the American Management Association. The management-minded D&H thinks the courses are well worth the time and money, and is considering sending more of its employees to the sessions.

Pennsylvania Railroad cleans



Photo shows axle in rinse position. The spray hood has a capacity of 8 to 10 axles, depending on size.



Here are five typical Wyandotte blueprints that can help cut your cleaning costs. Consult your Wyandotte cleaning specialist for others.

1. Diesel Engine Block Cleaning Tank
2. Diesel Engine Block Washer
3. Diesel Engine Spray Cleaning Setup
4. Diesel Truck Spray Washer
5. Spray Cleaner for Box and Hopper Cars

axles at $\frac{1}{3}$ the labor cost

Wyandotte blueprint cuts costs by letting one man do the work of three

The Pennsylvania Railroad, well-known for its good housekeeping program, has done it again! Their shops at Pitcairn, Pa., used to clean journals of unmounted axles with steam and petroleum spirits, wiping them dry with rags. Production rate was 30 to 35 axles per eight operator hours.

But not any more! Using a Wyandotte blueprint, they installed a Roll-In Axle Washer that requires only one operator, and the production rate is now 90 to 100 axles per eight operator hours.

Equipment shop-built

What's more, the equipment was completely shop-built, mostly from scrap. Here's how it works:

The operator feeds unmounted axles under the spray hood by means of a transfer mechanism. Axles are then sprayed with hot Wyandotte 11 solution, forced by a motor-driven centrifugal pump. Axles roll out by gravity to the rinse posi-

tion, one at a time. As one axle rolls out, another is transferred into the tank by the operator.

Many blueprints available

Many railroads have profited by using Wyandotte blueprints to install time-saving, money-saving cleaning processes. You can too! The list at the left shows some of the blueprints Wyandotte makes available to railroads—and there are many more.

But these blueprints are only a part of our systemwide service. Your Wyandotte cleaning specialist, assigned permanently to your line, can improve your cleaning in any local area or on a systemwide basis. If you are not taking full advantage of this service, get in touch with *your* Wyandotte cleaning specialist, or mail coupon today. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Also Los Nietos, California. Offices in principal cities.*



Wyandotte CHEMICALS

J. B. FORD DIVISION

COMPLETE LINE OF CLEANERS FOR ALL RAILWAY NEEDS

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☐ Please rush free blueprint for the following
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☐ Please have a Wyandotte cleaning specialist
call on me.

Name _____

Railroad _____

Department _____

Address _____

City _____ Zone _____ State _____

New EMD Controls Cut RR Costs

Electro-Motive's new electrical equipment for locomotives has reduced maintenance and repair costs, failures and delays. The new controls, which use less space and simplify replacement problems, have eliminated the need for pneumatic devices.

As one Electro-Motive spokesman put it—“We worked out the diesel's mechanical problems. Then the minor electrical troubles became major headaches. Something had to be done about it.”

Something was done about it. The first 100 per cent electrically controlled EMD locomotive was tested on the GN in July 1957. Four more went into UP service in September 1957. In January of this year the new type controls went into production on EMD's GP-9 locomotives. The NP and the Milwaukee received the first units so equipped.

Why the Changes Were Made

Maintenance and repair of the old-type equipment were becoming large cost items. Too many failures and costly delays were caused by loose and lost bolts and nuts, frayed braided shunts (most always one wire at a time), and non-enclosed interlocks in circuits where dirt became abrasive and sliding action rapidly wore out the copper contacts.

Many designs of electrical equipment had been taken from industry, where equipment was stationary and basically different load factors were encountered. These designs proved inadequate when applied to a diesel locomotive.

From the time the first EMD diesel locomotive was turned out, there have been requests from railroads that the locomotives perform additional functions. One thing after another was added, e.g., the original wheel slip indicator and its modifications, and automatic motor transition.

With the many additions crowding the panel space, it became necessary to make control cabinets larger or components smaller.

It was, therefore, decided to design a locomotive in terms of six-year maintenance cycles. The new components would be simpler, lighter in weight, easier to apply, and protected from the elements. Changeout would be by unit replacement.

What Changes Were Made

One of the first elements to be considered was the interlock, an auxiliary low-current contact used in control circuits to reflect the position of main contacts of the power contactor. Almost everything that could happen to a piece of equipment happened here: dirt, loose connections, bolts, nuts, shunts, and sliding contacts on copper surfaces—all potential trouble-makers.

Specifications for the new interlock include the following: It must be totally enclosed, designed to eliminate sliding action, and to eliminate copper as a contact or interrupting surface, and alloys must be selected on the basis of the specific jobs they are to do.

The old engine-starting contactor was bulky. Its exposed interlocks were subject to dirt, braided shunts and had copper contacts. The new model is half the size and interlocks are totally enclosed. Contacts are now silver alloy.

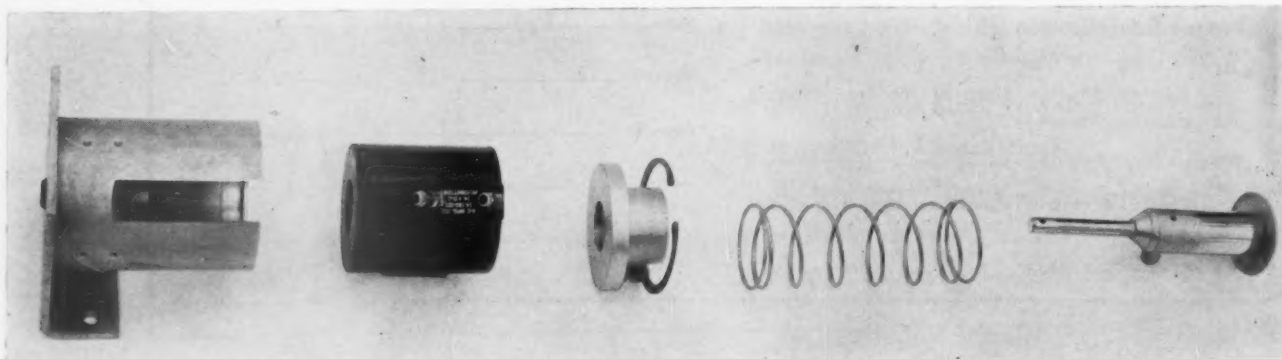
One basic design contactor replaces the battery field, shunt field and battery charging contactors. Application of an additional bus bar and a special arc chute on the new contactor places the contact openings in parallel on the battery field contactor. The contact openings are in series on the shunt field contactor. All interlocks are enclosed.

The previous motor field shunt four-

pole contactor gave a lot of trouble. Function of such a contactor is to shunt part of the motor field current through a resistor to increase locomotive speed. Copper contacts were used, which railroads had to change out often. The copper would oxidize, causing high resistance through the contact. The sliding finger interlocks were exposed and the air cylinder was subject to leaks.

The redesigned contactor is more compact and its interlocks are enclosed. Bridge type silver alloy contacts are provided. The doughnut-shaped blow-out magnets are under the retaining ring around the stationary contacts. Braided shunts have been eliminated. The removal of air operation from this device marked the beginning of a transition period leading to the 100 per cent electrically controlled locomotive. Pneumatic operation was eliminated from the power contactor, the 8-pole double-throw brake transfer switch and the drum reverser. Main troubles of the pneumatic equipment were (1) air leaks requiring constant inspection, replacement of seals, etc.; (2) freezing in cold weather, particularly on northern railroads, and (3) sliding contacts on the drum reverser required constant lubrication, often after each trip.

Changes in design eliminated all those problems and led to flexibility of application, ease of replacement and reduction in required space. Current consumption for the power circuits is the same. Control circuits require about $\frac{1}{3}$ kw more. The electric power contactor is no faster picking up, but much faster, around 0.03 sec, on dropping out. The magnet operation makes a cleaner break. Reversing and braking contactors are faster both ways. Use of all electrical controls also means the cabinet can be sealed to keep out unauthorized personnel.



BASIC ITEM in change from pneumatic to electric controls for EMD locomotives is this new coil and magnet frame assembly.

The pneumatic power contactor functions to make and break current to the traction motors and connect for series and parallel. In addition to being beset with the usual air troubles, the old contactor was heavy and difficult to apply. Now magnetically operated, it has the basic magnetic frame used on all switch gear. Interlocks are enclosed.

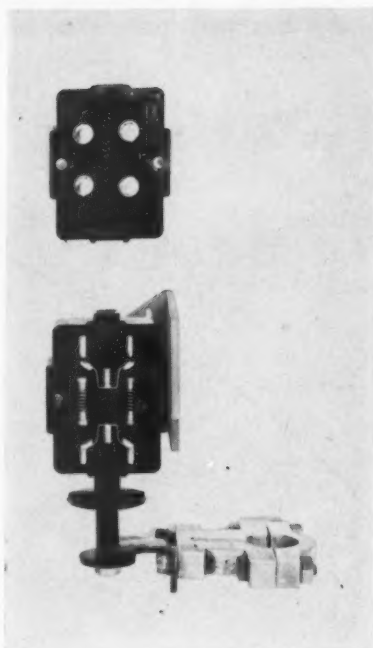
The 8-pole, double-throw, pneumatically operated brake transfer switch had all the shortcomings of an air-operated device. Function of the device is to change motors to generators, furnishing dynamic braking. The old switch was cumbersome to handle. A two-man job was required to apply and replace it. The new switch is a two-pole, double-throw, magnetically operated device with the basic coil and magnet frame assembly. Three of these take the place of the 8-pole device. They are small, compact, and replacement can be made on a unit basis. The interlocks are enclosed, the alloy bridge contacts are double break, and no lubrication or braided shunts are required.

The old pneumatically operated drum reverser, which can reverse four motors at one time, was used for reversing current flow through traction motor fields to determine the direction of a locomotive. It had magnet valves, cylinders and piston assembly and braided shunts. Its brass contacts were subject to a high pressure sliding movement which required regular lubrication, depending on climate and environment. The replacement consists of four two-pole devices. All undesirable features have been eliminated.

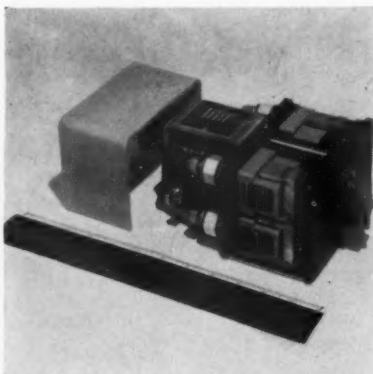
The contactors described above are made by outside manufacturers to Electromotive specifications.

Air-operated equipment on present diesels can be converted to the new electrical controls. Generally, new cabling is required. One midwestern railroad is having some FT locomotives converted to GP-9M's. The control cabinets are being replaced as a unit.

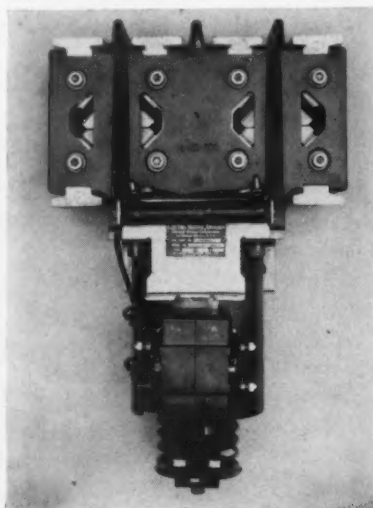
The change from pneumatic control was made possible by dependable interlocking and an efficient coil and magnet frame assembly. The assembly consists of totally enclosed magnets in a cylindrical iron shell fitted with close tolerance fiber doughnut guides for the actuating plunger. The design minimizes stray flux, and gives a more positive concentration of flux through the air gap. The coil and magnet frame assembly reduced the power requirements. Because the power is taken locally, an overburden is not placed on the lead unit controller. When locomotives are used in multiple, the design does not attempt to feed all contactors from the lead unit. Pilot relays on each unit take a signal from the train line and feed contactors from the local batteries or auxiliary generator.



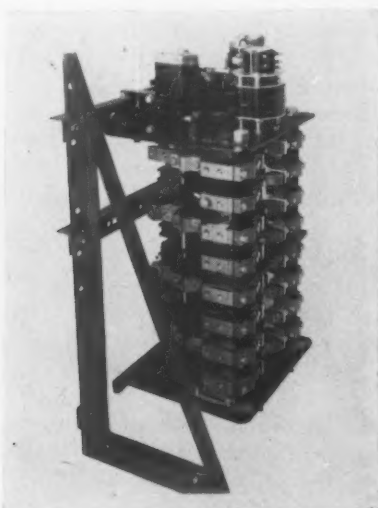
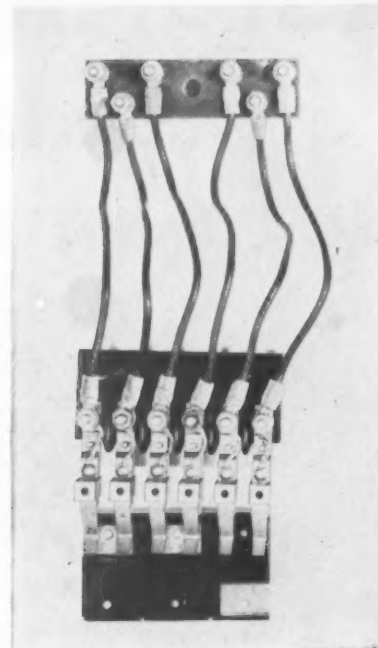
NEW INTERLOCK (left), is totally enclosed. Old interlock (right), was a focal point for many potential troublemakers, such as dirt and loose connections.



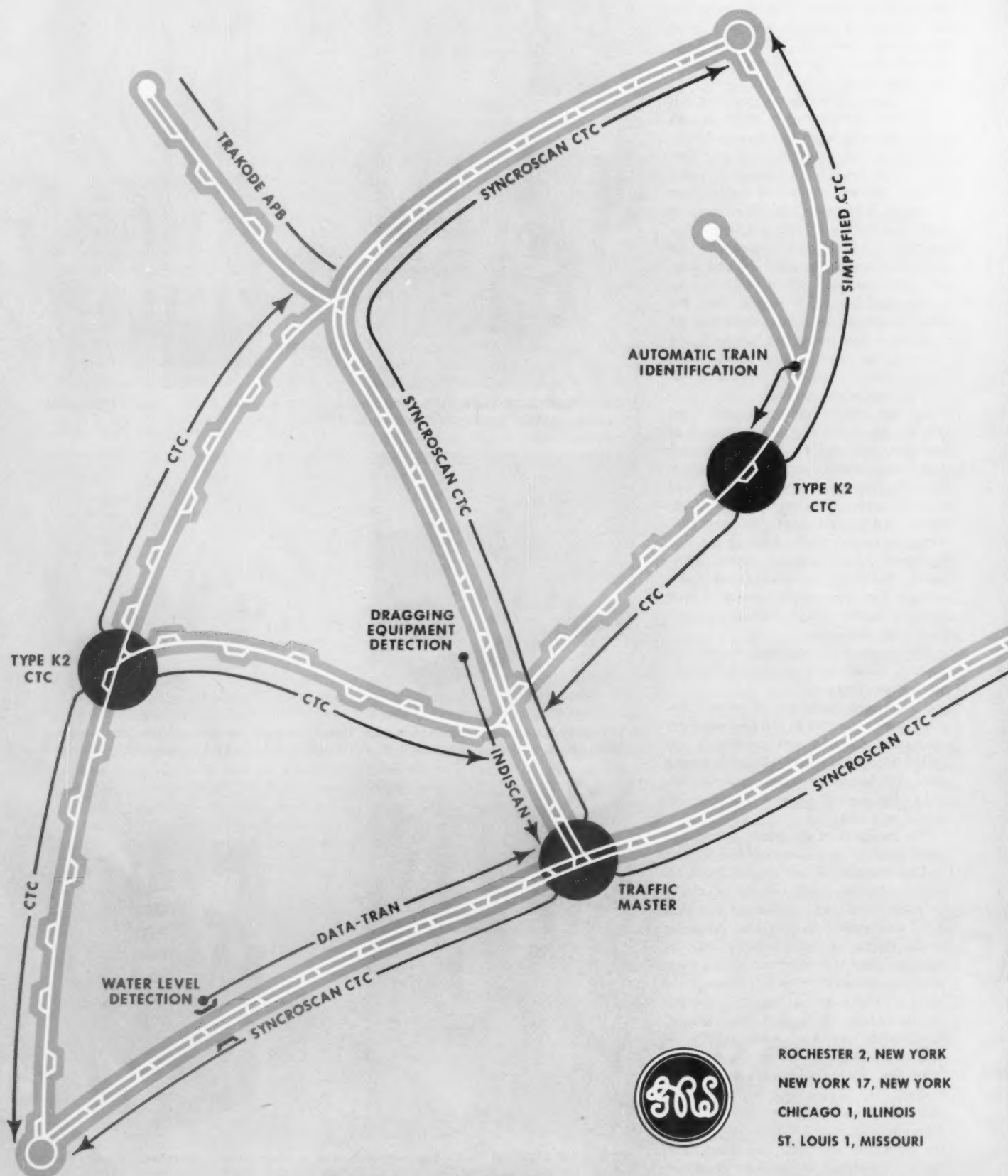
NEW-STYLE engine starting contactor (left), is half the size of the old contactor (right). New model's contacts are of silver alloy. Interlocks are completely enclosed.



NEW CAM SWITCH (left), has two poles and is magnetically operated. Three of them replace the old pneumatically operated switch (right). Replacement is on a unit basis.



AUTOMATE YOUR RAILROAD

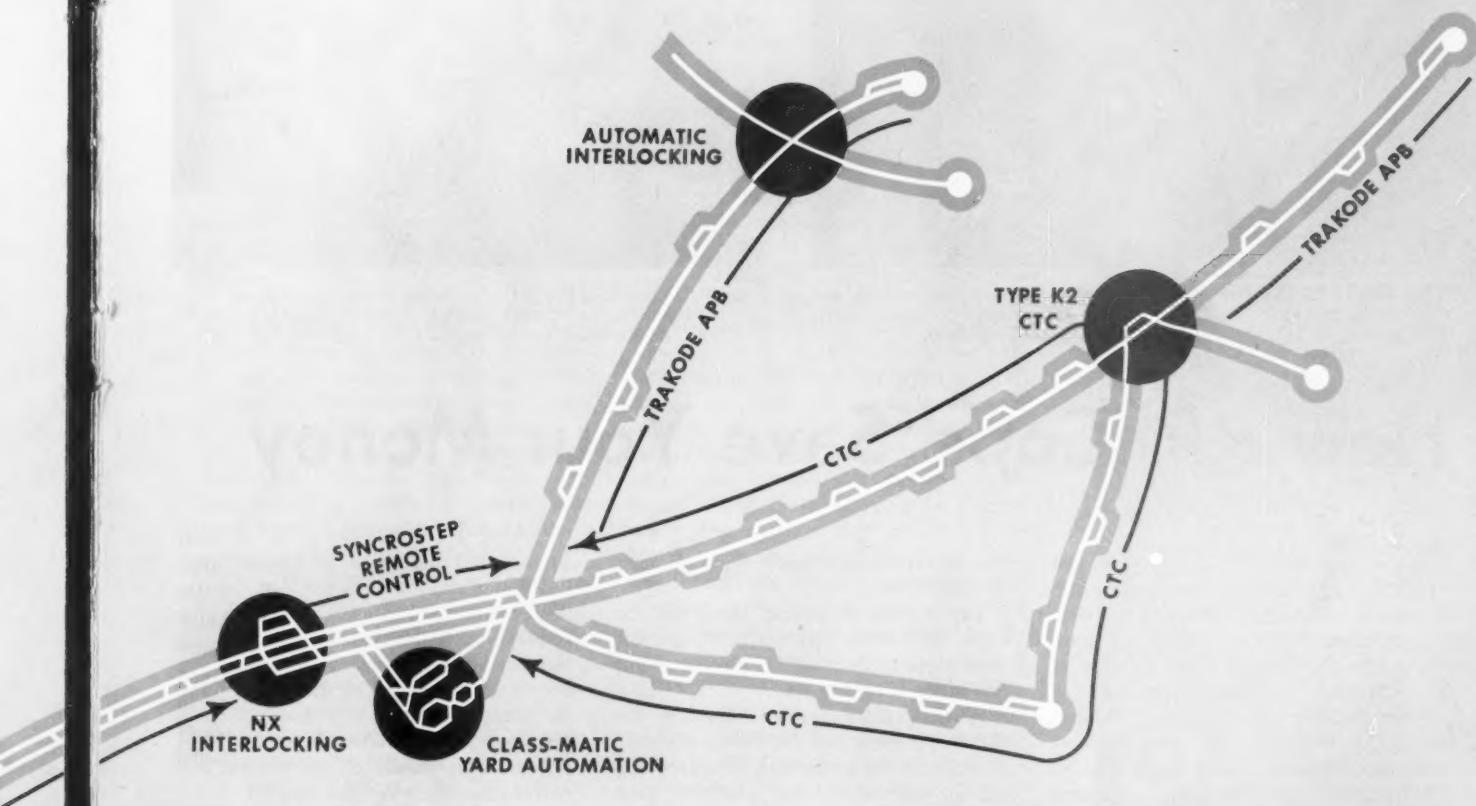


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- **GRS DATA-TRAN**—Promotes safety. Superimposes on present line wires. An electronic telemetering system that transmits varying data such as temperatures, liquid levels, etc. to a central point.
- **GRS INDISCAN**—Economical, simple, and fast means of transmitting indications to a control office, using existing line wires. An electronic system with high capacity.
- **GRS NX**—One man can handle a huge interlocking, quickly and easily. To route a train through the plant, simply push an entrance knob and an exit button on the panel diagram. NX selects the best available route—automatically.
- **GRS SYNCROSCAN**—A single system can control a whole railroad. The modern *electronic* centralized traffic control—its great speed and capacity make it ideal for dense traffic, extended mileage.
- **GRS SYNCROSTEP**—Economy in remote control—needs only two line wires. A fast system with large capacity for controls and indications. Simple in operation—easy to maintain.
- **GRS TRAFFIC MASTER**—Gives one-man control of hundreds of miles—even an entire railroad. The fastest, most flexible, pushbutton cTc control office equipment available.
- **GRS TRAKODE**—No signal-control line wires. Rail-transmitted impulses give complete automatic block protection, for double or single track, with or without cTc.
- **GRS TYPE K2**—Gives all the time-tested benefits of cTc. An all-relay coded system that has proved itself in scores of installations. For the average cTc job, and for simplified cTc in light-traffic sections.



ONE WAY TO AVOID TROUBLE with juvenile trespassers and vandals is to reach the kids with an educational program. Here, MP screens a safety film for Kansas school children.



PIGGYBACK SHIPMENTS come under the eye of railroad police—a special service shippers wouldn't get if their goods were routed entirely by highway movement.

How RR 'Cops' Save Your Money

It's a long haul from the days of Bat Masterson and stage-coach shotgun riders to the railroad special agent of today. But in a sense, today's agent can trace the ancestry of his job back to some of the legendary figures of the old West.

Over the intervening years, the agent, his duties and his responsibilities have seen much change. The special agent of 1958 occupies an unusual position among law enforcement officers. Much of the property he must guard stands out in the open in more or less deserted areas, an inviting target for thieves. He's also responsible for safeguarding shipments in transit—including piggyback trailers which, moving by rail, are afforded specific police protection they wouldn't have on the highways.

The agent, too, has duties in other widely diversified fields. He protects and assists passengers. He conducts investigations and aids in freight claim work. He's responsible for maintaining order and quelling disturbances. And he has a responsibility to establish and maintain good relations with on-line communities and their law enforcement agencies.

Let's look at the special agents on a specific property, in this case Missouri Pacific. Last year, MoPac agents were responsible for 789 individual arrests connected with cases ranging from juvenile delinquency to burglary, grand larceny and assault with intent to kill. The percentage of convictions to arrests: 99%.

The value of property recovered: more than \$83,000.

The figures, of course, don't tell the whole story. Detecting and solving crime is an important part of the job—but crime prevention is equally vital.

Special agents can do some of this prevention work just by "being around." A well-guarded property is its own warning to lawbreakers. But education must also play a role, particularly where the younger generation is concerned.

During 1957, MoPac agents apprehended some 379 juveniles—mostly for vandalism and trespassing violations rather than for thievery.

MoPac took the problem to the community level, sought support from school boards, civic groups, PTA organizations. Results have been impressive. During the first four months of 1958 alone, special agents in the road's western district talked to about 20,500 persons, most of them children. A special film on safety, "The Long Way Home," is being used to drive home the railroad's points.

Probably the biggest job for the agent, however, is protecting the company's facilities and property. The type of thief attracted to a railroad, apparently, will take anything not spiked down—and in some cases even spikes don't help.

Then there's the problem of pilferage, both from loaded cars and from freight houses. Vigilance, irregular but frequent inspections, a knowledge of thieves' meth-

ods—all aid the agent in keeping such losses to a minimum. In addition, MoPac (like many roads), gives applicants for employment a thorough screening, which includes fingerprinting. That helps keep known past offenders off the payroll—and the special agents usually aren't long in catching up with that small percentage of workers who wander off the straight and narrow after they join the railroad.

The cooperation between railroad police and the local community officers gets credit for a large assist in combating theft and pilferage. It's a two-way street. Railroad agents hold commissions as state, city or county law enforcement officers. As such, they're available to aid in community security affairs—and many small communities with one- or two-man police forces have learned to rely on the special agent's help with local problems. On the other hand, the agent knows co-operative local officers will keep an eye on railroad property and stand ready to give help when the agent needs it.

The figures bear out glowing estimates of the net worth of special agents to the railroad. Freight losses charged to theft dropped sharply after the AAR Protective Section was set up 37 years ago. Over the past 10 years alone, there's been a marked decrease in claims paid for loss through theft, unlocated loss and concealed loss. Special agents' efforts get a large share of the credit for the improved situation.

Wheel Slip:

Some New Remedies

Keeping locomotive wheels from slipping on oily, moist rails is a problem that has plagued railroad men ever since the first flanged wheel sought a cautious grip on a strip of metal.

Today the search for a solution is more urgent than ever—for two reasons:

- Increasing horsepower sustains higher tractive force at higher speeds.
- The use of pad journal lubricators on freight cars is pouring more oil onto the rails.

Sand is the most familiar remedy—but it's by no means the only one. Actually, no fewer than a dozen factors can influence wheel-rail adhesion—though some of these have been given little attention.

Four of these factors are matters of design and in most cases not under control of the locomotive engineer. These are weight on particular axles; smoothness of acceleration; accurate transition; and bouncing of locomotive drivers (speed, rough track, springing, wheel eccentricity or unbalance, etc.).

The other factors are sand; condition of rail (including slipperiness, irregularities, bumps; joints, hard spots, crossovers, curves); rail treatment; weight transfer; wheel slip detection with power removal; wheel slip detection with locomotive brake application; parallel connection of traction motors; and magnets.

Sand or some similar substance is the most effective known means of improving adhesion under adverse conditions. Unfortunately, the cost of getting good dry sand between the wheel and the rail at the right time is considerable, and about an equal cost is involved later in cleaning the sand out of the ballast. Also, sand fouls switches, interferes with signal operation and gets into locomotive parts where abrasives are not wanted.

A slippery rail is most often caused by a small amount of oil or grease accompanied by light moisture. It is possible to correct this condition by rail treatment. The only effective means of applying the treatment so far developed is to use a small motor car which runs over the section of track in question. In some cases, the procedure has proved to be economically advantageous and in others not.

The term "weight transfer" refers to the fact that tractive forces on a motor truck unbalance the weight among the axles. Compensation for this improves locomotive adhesion.

The form of wheel slip control most commonly used is to detect the slip and automatically eliminate or reduce the power to the motors until the condition is corrected.

It is also possible to stop wheel slip on locomotives having electric motor drive by a momentary light application of the locomotive brake without the use of sand. This is done on the Swiss Federal Railways where no sanding equipment is installed on any recently-built locomotive (RA, Dec. 24, 1956, p. 24).

Swiss locomotives are for the most part operated as single units. When an engineer notes a slip, either from its sound or by a slip indicator in the cab, he makes a light brake application to all wheels by means of a push-button control. A half second is required to make the application and the same time is required for release. All motors are in parallel, so the wheel-slip may be checked easily because the high speed of slip leaves the motor with little power. Since the power stays on the other motors and the locomotive has high inertia, the light brake application has little effect on the locomotive speed. The application also serves to condition wheel treads to minimize further slip. The method is also used by the Swiss for multiple-unit operation. In this case, the brake is controlled automatically or manually in response to a wheel-slip signal.

This practice has interested American railways, but it remains to be seen whether it can be adapted to American equipment and operating conditions.

All methods of controlling wheel slip in this country are inhibited by the fact that practically every diesel-electric locomotive has two motors in series at starting. A typical condition is shown in Fig. 1.

If the wheels driven by motor No. 2 slip, the motor speeds up and develops a counter emf which robs motor No. 1 of its power and leaves motors Nos. 3 and 4 to take care of the generator output. If power is not reduced, they will slip. Prompt wheel slip control will prevent this, but it means temporary loss of power.

After transition, motor connections are the same on American diesels as they are on Swiss electrics. This is indicated in Fig. 2. If motor No. 1 slips, its speed increases, but since it is across a constant
(Continued on page 33)

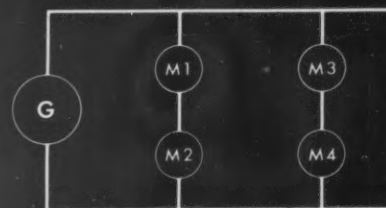


FIG. 1

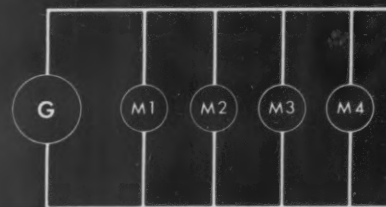


FIG. 2

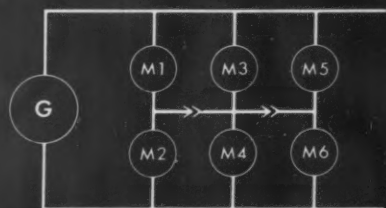


FIG. 3

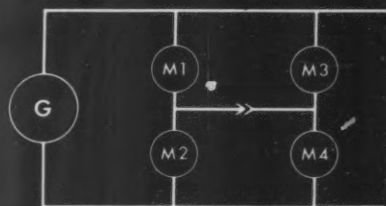


FIG. 4

FIG. 1—Arrangement of generator and motor connections used through the low speed range on practically all diesel-electric locomotives.

FIG. 2—Motor arrangements on a four-motor locomotive after transition to parallel.

FIG. 3—A six-motor locomotive equipped with stabilizing cross-connections and contactors for opening the cross-connections at the time of transition.

FIG. 4—Cross connections applied to a four-motor locomotive would apparently be of no benefit.

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1958

Name of Road	Average mileage operated during period	Operating Revenues			Operating Expenses			Operating ratio 1958 to 1957	Railway operating accruals 1958	Net Railway operating income 1958
		Freight	Pass.	Total (inc. misc.)	Total	Retire-ments	Deprec.			
		1958	1957	1958	1957	1958	1957			
Akron Canton & Youngstown	May	488	415	582	48	53	37	138	336	416
Albany, Tennessee & Northern	5 mos.	1,912	1,965	2,736	262	351	28	314	236	1,736
Alabama, Tennessee & Northern	5 mos.	1,912	1,965	2,736	262	351	28	314	236	1,736
Atchafalaya, Topoka & Santa Fe	5 mos.	1,912	1,965	2,736	262	351	28	314	236	1,736
Atchafalaya, Topoka & Santa Fe	5 mos.	1,912	1,965	2,736	262	351	28	314	236	1,736
Atlanta & St. Andrews Bay	May	346	349	437	38	47	3	132	29	178
Atlanta & West Point	5 mos.	1,226	1,209	1,334	47	57	12	141	225	295
Western of Alabama	5 mos.	1,123	1,114	1,505	180	228	35	266	308	1,349
Atlantic Coast Line	5 mos.	1,238	1,204	1,505	180	228	35	266	308	1,349
Charleston & Western Carolina	5 mos.	1,359	1,359	1,656	231	274	43	287	335	1,425
Baltimore & Ohio	5 mos.	10,341	990	12,258	14,593	1,898	214	2,332	3,085	10,371
Baltimore & Ohio	5 mos.	10,341	990	12,258	14,593	1,898	214	2,332	3,085	10,371
Staten Island Rapid Transit	May	297	285	292	59	59	12	156	279	303
Bangor & Aroostook	5 mos.	1,040	325	1,424	1,371	262	288	55	187	1,011
Bangor & Aroostook	5 mos.	1,040	325	1,424	1,371	262	288	55	187	1,011
Bearsemer & Lake Erie	5 mos.	1,281	1,281	1,364	231	270	44	466	698	1,362
Boston & Maine	5 mos.	1,182	1,182	1,364	231	270	44	466	698	1,362
Canadian Pacific Lines in Maine	5 mos.	1,182	1,182	1,364	231	270	44	466	698	1,362
Carolina & Northwestern	5 mos.	1,284	1,284	1,364	231	270	44	466	698	1,362
Central of Georgia	May	1,763	1,763	1,873	389	554	49	653	3,090	3,102
Central of Georgia	May	1,763	1,763	1,873	389	554	49	653	3,090	3,102
Central of New Jersey	5 mos.	1,605	1,605	1,873	389	554	49	653	3,090	3,102
Central Vermont	5 mos.	1,605	1,605	1,873	389	554	49	653	3,090	3,102
Chesapeake & Ohio	May	1,605	1,605	1,873	389	554	49	653	3,090	3,102
Chesapeake & Ohio	May	1,605	1,605	1,873	389	554	49	653	3,090	3,102
Chicago & Eastern Illinois	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Chicago & Illinois Midland	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Chicago & North Western	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Chicago, Burlington & Quincy	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Chicago Great Western	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Chic., Milw., St. Paul & Pac.	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Chicago, Rock Island & Pacific	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Cincinnati	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Colorado & Southern	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Ft. Worth & Denver	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Colorado & Wyoming	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Delaware & Hudson	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Delaware, Lacka. & Western	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Denver & Rio Grande Western	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Detroit & Toledo Shore Line	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Detroit, Toledo & Ironton	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Duluth, Missabe & Iron Range	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Duluth, So. Shore & Atlantic	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362
Duluth, Winnipeg & Pacific	5 mos.	1,211	1,211	1,364	231	270	44	466	698	1,362

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1958

Average mileage traveled during period	Name of Road	Operating Revenue (thous. miles)		Maint. Way and Structures		Deprec.		Total		Operating Expenses		Net Railway tax income	Net Railway income						
		Operating Revenue		Total		Deprec.		Total		Total									
		1958	1957	1958	1957	1958	1957	1958	1957	1958	1957								
236	Elgin, Joliet & Eastern	3,360	5,186	300	251	10	1,354	1,176	133	45	1,259	13,184	3,510	94.2	68.9	197	275	132	426
236	Elgin, Joliet & Eastern	16,873	24,986	1,264	1,526	141	5,917	4,884	619	219	4,665	15,430	16,709	86.1	65.9	1,143	1,463	745	2,892
236	Elgin, Joliet & Eastern	11,992	14,714	1,276	1,517	2,014	2,431	1,664	553	364	5,937	10,328	12,186	93.1	85.9	1,143	1,463	745	2,892
2,297	Florida East Coast	5,677	7,394	6,545	8,484	1,091	1,352	2,790	1,881	30,167	5,173	72,424	8,802	21,431	74.8	8,802	5,365	1,944	806
571	Florida East Coast	12,571	16,366	2,156	2,773	3,316	3,316	3,316	3,316	459	6,062	12,394	14,381	75.7	74.8	1,068	1,368	1,635	1,891
321	Georgia Railroad	19	652	7	112	137	137	35	23	41	285	873	565	87.8	88.9	39	36	77	96
332	Georgia & Florida	74	3,281	485	7,783	48	36	738	17	23	1,466	2,449	3,250	88.5	86.0	32	17	8	22
332	Georgia & Florida	1,327	1,356	374	383	19	181	281	40	112	1,251	1,167	1,167	88.1	88.1	189	83	85	22
951	Grand Trunk Western	3,385	23,323	3,763	3,769	877	4,315	4,755	457	459	11,919	20,900	22,555	99.9	86.6	2,336	1,799	2,311	1,872
224	Great Northern	799	18,450	3,476	5,445	300	3,426	27,093	825	574	6,769	15,264	18,450	81.5	74.2	3,386	1,757	1,728	2,445
8,274	Great Northern	3,300	164,673	13,753	18,741	1,608	19,562	24,093	4,115	2,935	34,177	75,351	84,549	80.5	75.4	10,876	8,355	1,719	1,19
224	Great Northern	1,984	1,917	295	281	46	258	281	46	126	590	1,445	1,360	72.8	70.9	539	222	164	145
2,757	Gulf Mobile & Ohio	248	6,406	7,476	947	77	1,258	1,562	299	308	2,301	5,231	5,231	82.1	78.0	1,175	528	252	483
2,757	Gulf Mobile & Ohio	29,153	32,634	35,788	4,331	388	7,070	7,573	1,492	1,314	11,657	26,726	26,726	69.1	79.3	5,939	2,369	1,358	2,461
6,497	Illinois Central	21,257	24,603	3,081	3,923	436	3,950	5,417	987	642	8,655	17,447	20,387	82.1	82.5	3,810	2,120	1,999	1,999
6,497	Illinois Central	18,198	105,574	121,891	19,232	2,088	28,512	23,577	4,793	3,131	43,197	87,156	97,105	79.7	79.7	18,719	10,976	6,447	8,167
339	Illinois Terminal	3,046	3,963	512	512	12	784	1,062	183	248	1,772	3,560	4,157	78.0	79.7	1,063	360	298	301
2,948	Kansas City Southern	2,948	3,743	2,62	486	479	486	479	166	86	1,119	2,092	2,178	62.2	56.3	1,271	528	534	662
891	Kansas City Southern	16,238	19,514	1,422	1,906	241	2,900	2,433	530	485	5,662	10,743	10,743	59.0	58.2	7,449	3,148	3,158	3,417
327	Kansas, Oklahoma & Gulf	359	420	72	42	29	26	12	29	42	251	251	219	69.8	52.1	198	47	20	84
327	Kansas, Oklahoma & Gulf	2,227	2,141	335	338	36	136	153	59	149	472	1,278	1,246	55.1	58.2	999	445	368	320
160	Lake Superior & Ishpeming	313	781	60	11	59	70	21	34	19	217	311	311	49.3	44.3	36	42	47	571
96	Lehigh & Hudson River	271	1,326	24	36	5	35	41	8	19	108	212	217	78.0	66.6	28	28	47	22
1,342	Lehigh & Hudson River	1,543	1,486	182	182	12	193	197	41	94	1,073	1,073	1,073	79.9	71.3	30	271	90	25
534	Lehigh & New England	442	703	63	93	25	131	193	50	25	217	486	500	75.8	78.4	156	37	217	275
2,535	Lehigh & New England	2,864	3,042	275	428	33	660	927	257	123	1,018	2,323	2,800	90.6	92.1	241	161	508	804
1,131	Lehigh Valley	4,787	8,757	513	649	102	853	1,102	214	151	2,457	4,219	4,904	88.1	85.2	588	323	161	389
1,130	Lehigh Valley	23,271	28,300	3,410	3,440	502	4,161	5,625	971	751	12,639	22,187	25,136	85.5	85.5	1,824	2,241	1,774	196
350	Long Island	27,158	27,069	4,123	3,991	514	5,617	5,314	841	154	14,257	25,136	23,957	92.6	88.5	2,022	1,781	754	152
746	Louisiana & Arkansas	1,365	2,326	216	20	1312	1,349	98	82	681	1,368	1,368	1,454	69.6	62.5	598	269	180	336
5,697	Louisville & Nashville	17,574	1,067	2,741	2,777	284	3,770	4,654	1,063	422	7,386	15,812	17,400	88.3	82.6	2,062	1,658	997	2,654
5,697	Louisville & Nashville	3,172	90,757	102,758	15,818	1,419	19,972	22,659	5,343	2,544	38,010	79,179	84,736	92.2	82.5	11,578	9,151	5,858	11,409
944	Maine Central	1,910	2,889	1,072	1,482	130	2,009	2,128	431	131	4,233	8,778	9,331	78.3	76.2	2,485	1,103	852	1,178
306	Maine Central	11,343	12,546	1,915	2,160	130	2,009	2,128	431	131	4,233	8,778	9,331	78.3	76.2	2,485	1,103	852	1,178
1,391	Minneapolis & St. Louis	1,826	2	9,094	1,938	304	363	280	90	106	617	1,459	1,430	76.7	73.0	444	276	169	217
1,391	Minneapolis & St. Louis	1,826	2	9,094	1,938	304	363	280	90	106	617	1,459	1,430	76.7	73.0	444	276	169	217
1,391	Minneapolis & St. Louis	1,826	2	9,094	1,938	304	363	280	90	106	617	1,459	1,430	76.7	73.0	444	276	169	217
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1,391	Minneapolis & St. Louis	1,826	2	9,094	1,938	304	363	280	90	106	617	1,459	1,430	76.7	73.0	444	276	169	217
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1,391	Minneapolis & St. Louis	1,826	2	9,094	1,938	304	363	280	90	106	617	1,459	1,430	76.7	73.0	444	276	169	217
1,391	Minneapolis & St. Louis	1,826	2	9,094	1,938	304	363	280	90	106	617	1,459	1,430	76.7	73.0	444	276	169	217
1,391	Minneapolis & St. Louis	1,826	2	9,094	1,938	304	363	280	90	106	617	1,459	1,430	76.7	73.0	444	276	169	217
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1,391	Minneapolis & St. Louis	1,826	2	9,094	1,938	304	363	280	90	106	617	1,459	1,430	76.7	73.0	444	276	169	217
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1,391																			

(Continued on page 28)

over 400
QCF "KING SIZE"
tank cars

NOW SAVING MONEY FOR AMERICAN RAILROADS

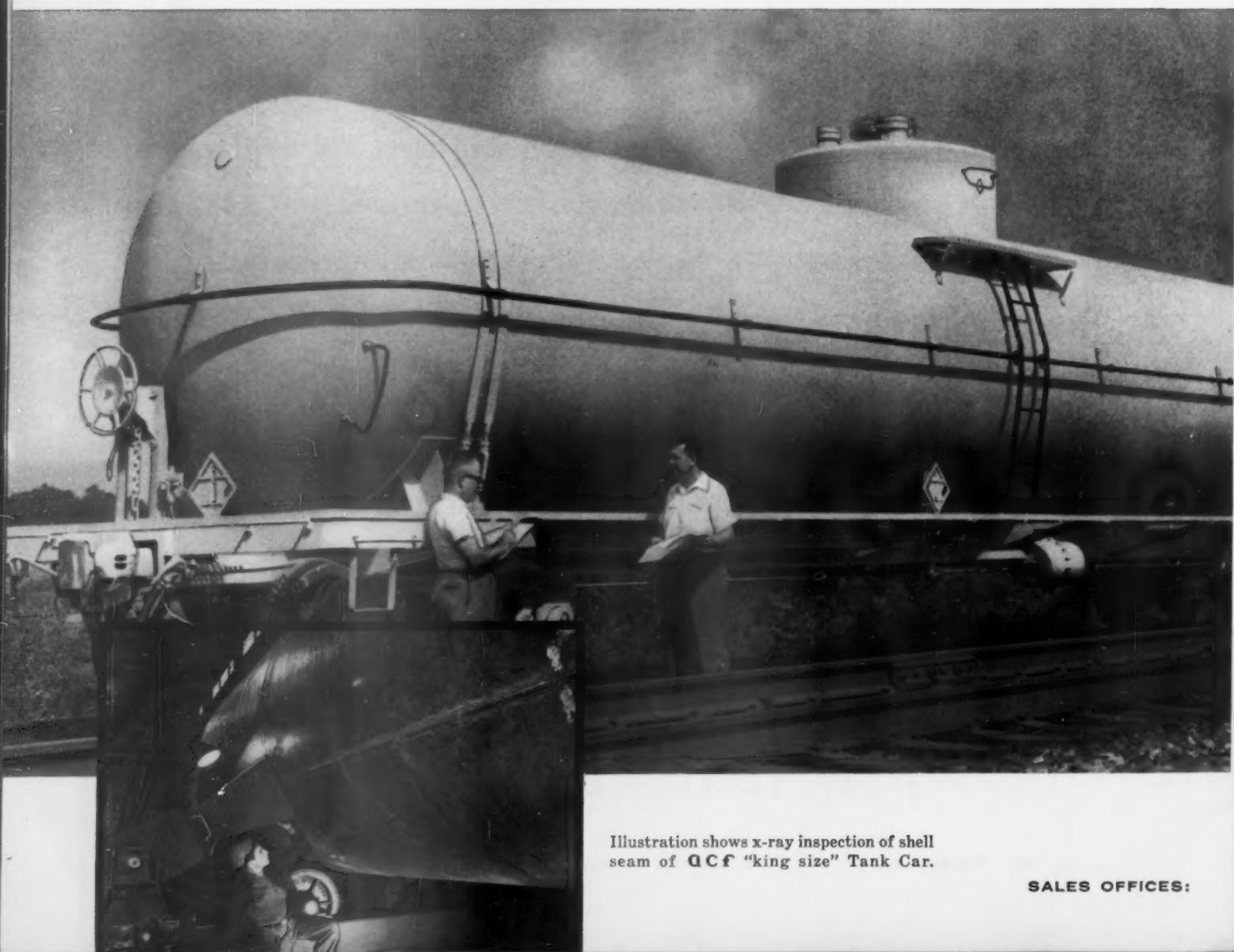


Illustration shows x-ray inspection of shell seam of QCF "king size" Tank Car.

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- **30% LOWER COST PER GALLON
OF CAPACITY**
- **LOWER OPERATING AND MAINTENANCE
COSTS PER GALLON**
- **ALL-WELDED, X-RAY CONTROLLED
AND STRESS-RELIEVED**
- **19,100 GALLONS CAPACITY**
- **MEET OR EXCEED ALL ICC
AND AAR SPECIFICATIONS**
- **EQUIPPED WITH INTERNAL BAFFLES,
PERMITTING MOVEMENT WITH LESS
THAN FULL LOAD**

These "maximum capacity" tank cars lower railroad diesel fuel costs three ways: lower fuel oil price when you supply your own tank car...lower hauling cost per gallon...lower storage cost, for "king size"

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DIVISION OF ACF INDUSTRIES, INCORPORATED
750 THIRD AVENUE, NEW YORK 17, NEW YORK

PRODUCTION DESIGN CARS

REVENUES AND EXPENSES OF RAILWAYS

Dollar figures are stated in thousands: i.e., with last three digits omitted)

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1958

Name of Road	Operating Revenue (thous. dol.)				Maint. Way and Structures				Operating Expenses				Net						
	Revenue				Deprec.				Total				Railway						
	Freight	Pass.	1958	1957	Total	1958	Total	Retire- ments	1958	Total	Trans- portation	1958	Total	Operating ratio	Net income				
Average mileage during period	1958	1957	1958	1957	1958	1957	1958	1957	1958	1957	1958	1957	1958	1957	1957				
Norfolk & Western	15,689	240	16,455	27,656	2,711	3,943	3,230	3,014	4,338	1,038	365	11,014	15,360	66.9	57.4	5,441	2,883		
5 mo.	2,131	75,680	1,093	887,493	1,111	14,787	1,612	18,245	21,884	5,149	1,831	26,183	7,762	74.9	69.4	19,374	16,665		
Norfolk Southern	6,684	3,485	3,560	4,669	2,866	1,091	74	622	2,866	166	243	1,214	3,220	3,637	98.6	78.0	339	48	
5 mo.	828	44,641	444	2,676	1,866	2,676	1,866	2,676	1,866	2,676	1,866	2,676	1,866	98.6	78.0	339	48		
Norfolk Pacific	58,684	1,893	63,350	73,419	8,967	10,667	13,12	14,276	14,372	3,545	2,074	27,954	57,995	88.5	85.3	7,445	4,524		
Northwestern Pacific	328	1,113	1,124	1,164	221	280	19	76	88	3	9	341	676	60.1	64.9	448	98		
5 mo.	361	4,854	3,405	4,986	1,438	2,25	13	19	3,272	1,042	91	3,272	1,042	71.8	77.2	1,320	134		
Pacific Electric	3,361	4,854	3,405	4,986	1,438	2,25	13	19	3,272	1,042	91	3,272	1,042	71.8	77.2	1,320	134		
5 mo.	3,361	4,854	3,405	4,986	1,438	2,25	13	19	3,272	1,042	91	3,272	1,042	71.8	77.2	1,320	134		
Pennsylvania	9,947	51,296	8,812	67,040	86,681	8,110	14,230	17,264	2,981	1,185	133,219	60,634	71,898	90.4	83.0	6,407	4,837		
5 mo.	5,945	23,221	43,645	33,440	38,776	7,105	69,495	85,966	15,091	6,848	302,592	350,629	431,621	91.3	83.0	28,485	22,229		
Penn.-Reading Seashore Line	338	471	387	797	257	243	57	123	122	37	457	890	920	153.8	115.2	311	67		
5 mo.	358	2,698	3,778	3,756	1,050	1,111	130	697	134	46	2,370	4,313	4,379	140.1	118.2	1,235	335		
Piedmont & North	126	2,869	2,122	2,320	2,217	218	23	138	186	44	141	1,045	1,091	51.4	47.0	1,037	291		
5 mo.	132	8,550	5,554	5,554	142	216	23	148	181	46	81	204	631	615	114.0	73.7	7,978	352	
Pittsburgh & West Virginia	132	3,437	3,457	4,212	646	574	123	743	746	395	1,069	3,137	3,061	98.8	72.7	3,320	277		
Reading	1,304	7,312	514	11,944	1,117	1,684	199	1,500	2,281	493	204	4,095	7,318	9,450	87.8	79.1	1,021	536	
5 mo.	1,304	39,179	2,886	48,968	59,857	6,574	7,458	970	8,456	11,393	2,461	1,003	21,225	39,669	46,350	88.0	77.4	5,399	1,176
Richmond, Fred. & Potomac	118	1,356	398	1,994	2,304	159	27	274	333	67	240	769	1,314	1,502	65.9	65.2	6,880	1,76	
5 mo.	118	1,356	398	1,994	2,304	159	27	274	333	67	240	769	1,314	1,502	65.9	65.2	6,880	1,76	
Rutland	391	1,762	2,289	1,125	1,933	10	361	381	381	182	132	735	378	68.6	88.9	82	147		
5 mo.	391	1,762	2,289	1,125	1,933	10	361	381	381	182	132	735	378	68.6	88.9	82	147		
St. Louis-San Francisco	4,933	39,383	1,210	43,984	49,085	1,226	1,453	178	1,331	1,543	340	8,734	7,518	80.6	83.0	4,544	793		
5 mo.	4,933	39,383	1,210	43,984	49,085	1,226	1,453	178	1,331	1,543	340	8,734	7,518	80.6	83.0	4,544	793		
St. Louis-San Fran. & Texas	143	1,694	1,210	1,966	234	205	4	125	34	1	123	141	1,304	1,360	71.5	69.1	1,521	46	
5 mo.	143	1,694	1,210	1,966	234	205	4	125	34	1	123	141	1,304	1,360	71.5	69.1	1,521	46	
St. Louis, Southwestern Lines	1,559	23,731	3,731	27,840	3,471	3,666	352	3,434	3,752	916	665	8,158	16,579	17,990	65.5	64.6	7,406	3,363	
Savannah & Atlanta	144	1,349	1,360	1,362	80	77	56	265	19	17	105	270	65	274	78.7	75.7	90	54	
5 mo.	144	1,349	1,360	1,362	80	77	56	265	19	17	105	270	65	274	78.7	75.7	90	54	
Seaboard Air Line	4,146	11,197	1,037	13,284	14,166	1,037	2,843	209	2,670	2,613	659	4,876	10,575	10,749	78.1	75.9	2,629	924	
5 mo.	4,146	11,197	1,037	13,284	14,166	1,037	2,843	209	2,670	2,613	659	4,876	10,575	10,749	78.1	75.9	2,629	924	
Southern Railway	6,713	58,146	5,288	68,468	8,998	10,634	1,042	12,944	13,436	3,455	2,241	23,885	51,566	53,749	78.8	73.7	13,832	4,973	
5 mo.	6,713	58,146	5,288	68,468	8,998	10,634	1,042	12,944	13,436	3,455	2,241	23,885	51,566	53,749	78.8	73.7	13,832	4,973	
5 mo.	6,713	58,146	5,288	68,468	8,998	10,634	1,042	12,944	13,436	3,455	2,241	23,885	51,566	53,749	78.8	73.7	13,832	4,973	
Alabama Great Southern	328	889	40	1,856	1,674	244	290	328	328	81	42	413	1,872	1,314	101.5	78.5	16	183	
5 mo.	328	889	40	1,856	1,674	244	290	328	328	81	42	413	1,872	1,314	101.5	78.5	16	183	
Clan., New Orleans-Tex. Pac.	337	15,747	1,462	17,794	1,210	1,794	1,210	1,794	1,210	1,794	1,210	1,794	1,210	1,794	1,210	1,794	1,210	1,794	
5 mo.	337	15,747	1,462	17,794	1,210	1,794	1,210	1,794	1,210	1,794	1,210	1,794	1,210	1,794	1,210	1,794	1,210	1,794	
Georgia Southern & Florida	397	3,276	226	3,856	4,216	815	1,037	116	92	46	53	111	1,365	2,982	3,316	77.3	78.7	874	190
5 mo.	397	3,276	226	3,856	4,216	815	1,037	116	92	46	53	111	1,365	2,982	3,316	77.3	78.7	874	190
New Orleans & Northeastern	203	4,219	30	927	1,221	212	168	176	69	25	247	785	672	76.1	68.5	55.1	122	152	
5 mo.	203	4,219	30	927	1,221	212	168	176	69	25	247	785	672	76.1	68.5	55.1	122	152	
Texas & Pacific	9,933	37,113	2,183	44,296	5,229	6,483	4,348	10,236	8,731	299	124	1,211	3,387	3,443	72.0	68.1	1,316	512	
5 mo.	9,933	37,113	2,183	44,296	5,229	6,483	4,348	10,236	8,731	299	124	1,211	3,387	3,443	72.0	68.1	1,316	512	
Texas & New Orleans	283	10,118	1,076	11,974	1,224	2,859	2,166	1,457	1,184	268	4,265	8,660	6,763	78.2	73.2	2,416	3,879		
5 mo.	283	10,118	1,076	11,974	1,224	2,859	2,166	1,457	1,184	268	4,265	8,660	6,763	78.2	73.2	2,416	3,879		
Spokane International	150	327	337	332	54	36	33	10	7	82	307	198	61	59.6	59.6	138	40		
5 mo.	150	327	337	332	54	36	33	10	7	82	307	198	61	59.6	59.6	138	40		
Spokane, Portland & Seattle	945	2,220	2,485	2,687	485	520	94	442	444	128	33	934	2,008	2,081	80.8	77.4	477	236	
5 mo.	945	2,220	2,485	2,687	485	520	94	442	444	128	33	934	2,008	2,081	80.8	77.4	477	236	
Tennessee Central	286	1,577	325	1,236	1,916	2,182	2,911	2,98	2,189	62	14	4,717	9,239	9,787	71.4	67.2	2,279	996	
5 mo.	286	1,577	325	1,236	1,916	2,182	2,911	2,98	2,189	62	14	4,717	9,239	9,787	71.4	67.2	2,279	996	
Texas & Pacific	1,331	4,794	209	5,658	6,392	869	1,013	93	1,032	1,159	185	2,393	4,849	5,260	85.7	80.2	889	333	
5 mo.	1,331	4,794	209	5,658	6,392	869	1,013	93	1,032	1,159	185	2,393	4,849	5,260	85.7	80.2	889	333	
Texas Mexican	161	1,466	1,580	1,406	284	278	29	176	145	14	1,018	1,176	1,118	69.3	65.7	96	46		
5 mo.	161	1,466	1,580	1,406	284	278	29	176	145	14	1,018	1,176	1,118	69.3	65.7	96	46		
Toledo, Peoria & Western	239	3,013	3,898	3,148	367	312	32	291	275	60	252	785	1,995	1,868	61.9	59.3	1,192	532	
5 mo.	239	3,013	3,898	3,148	367	312	32	291	275	60	252	785	1,995	1,868	61.9	59.3	1,192	532	
Union Pacific	9,753	33,932	2,302	39,111	41,362	6,413	6,970	731	7,779	8,288	1,879	1,293	31,187	33,242	79.7	80.4	7,925	4,338	
5 mo.	9,753	33,932	2,302	39,111	41,362	6,413	6,970	731	7,779	8,288	1,879	1,293	31,187	33,242	79.7	80.4	7,925	4,338	
Virginian	608	19,937	20,871	28,931	2,362	2,800	332	3,630	3,453	1,403	397	4,257	11,779	10,467	53.6	48.3	1,502	4,844	
5 mo.	608	19,937	20,871	28,931	2,362	2,800	332	3,630	3,453	1,403	397	4,257	11,779	10,467	53.6	48.3	1,502	4,844	
Wabash	2,392	7,913	366	9,103	10,409	1,142	1,258	1,846	1,401	452	356	4,156	7,609	8,166	83.5	78.1	9,592	5,98	
5 mo.	2,392	7,913	366	9,103	10,409	1,142	1,258	1,846	1,401	452	356	4,156	7,609	8,166	83.5	78.1	9,592	5,98	
Ann Arbor	294	784	713	790	87	100	7	170	177	42	32	358	671	679	94.1	86.0	42	56	
5 mo.	294	784	713	790	87	100	7	170	177	42	32	358	671	679	94.1	86.0	42	56	
Western Maryland	844	7,465	3,593	3,983	368	814	209	163	1,768	1,631	163	1,768	1,631	1,631	82.0	82.0	277	26	
5 mo.	844	7,465	3,593	3,983	368	814	209	163	1,768	1,631	163	1,768	1,631	1,631	82.0	82.0	277	26	
Western Pacific	1,192	3,772	4,183	4,855	2,599	3,787	336	3,827	4,062	4,062	1,371	2,081	3,483	3,483	78.4	68.0			

MARKET OUTLOOK *at a glance*

Carloadings Rise 18.5% Above Previous Week's

Loadings of revenue freight in the week ended July 19 totaled 581,817 cars, the Association of American Railroads announced on July 24. This was an increase of 90,675 cars, or 18.5%, compared with the previous week; a decrease of 161,542 cars, or 21.7%, compared with the corresponding week last year; and a decrease of 66,675 cars, or 10.3%, compared with the equivalent 1956 week.

Loadings of revenue freight for the week ended July 12 totaled 491,142 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS For the week ended Saturday, July 12			
District	1958	1957	1956
Eastern	71,222	101,336	103,226
Allegheny	75,771	130,531	98,968
Pocahontas	19,167	52,100	49,005
Southern	82,013	109,468	117,216
Northwestern	88,727	118,533	71,346
Central Western	107,652	123,779	121,820
Southwestern	46,590	56,852	58,407
Total Western Districts	242,969	299,164	251,573
Total All Roads	491,142	692,599	619,988
Commodities:			
Grain and grain products	63,407	70,765	66,337
Livestock	3,900	4,843	6,622
Coal	24,721	99,976	106,550
Coke	5,188	10,214	3,904
Forest Products	31,186	37,568	45,714
Ore	52,150	93,248	19,807
Merchandise			
I. c. l.	41,464	50,780	55,434
Miscellaneous	269,126	325,205	315,620
July 12	491,142	692,599	619,988
July 5	457,661	535,334	478,297
June 28	626,573	732,733	755,279
June 21	627,677	746,764	799,592
June 14	622,221	746,122	801,428

Cumulative total,
28 weeks ... 15,247,258 19,068,329 20,027,331

IN CANADA.—Carloadings for the seven-day period ended July 7 totaled 68,752 cars, compared with 98,801 cars for the previous nine-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
July 7, 1958	68,752	23,767
July 7, 1957	74,529	29,720
Cumulative Totals:		
July 7, 1958	1,880,315	753,538
July 7, 1957	2,011,136	874,752

New Equipment

FREIGHT-TRAIN CARS

► **Chicago, Burlington & Quincy.**—Ordered 100 50-ton box cars from its Havelock shops. The cars, to be built next year, will cost approximately \$1.26 million.

► **North American.**—Purchased 35 hopper cars from Pullman-Standard at a cost of about \$351,000. Twenty of them are 2,003 cu. ft cars costing approximately \$9,300 each; the remaining 15, costing about \$11,000 each, are 2,893 cu. ft cars.

► **Santa Fe.**—Is building 25 88-ft flat cars for piggyback service at its Topeka shops. The cars, which will be 9 ft 6 in. wide, will accommodate two 40-ft trailers with refrigerator units attached to the front end or any combination of two smaller trailers in present day use. Completion of all 25 cars is expected by August 1.

► **Union Tank Car.**—Ordered 30 Class 111A tank cars from its Whiting shops. Delivery is slated for the last quarter of 1958 and the first quarter of 1959.

► **Orders Drop.**—June orders for new freight cars totaled 317, a substantial decrease from the 1,372 ordered in May, and the lowest number of orders in nine years. Deliveries in June totaled 2,407, compared with 3,534 in May and 8,377 in June, 1957. Cars on order and undelivered on July 1 totaled 27,757, compared with 30,386 on June 1 and 91,810 a year ago.

Type	Ordered June, 1958	Delivered June, 1958	On Order & Undelivered July 1, 1958
Box — plain	100	294	8,979
Box — auto	0	0	600
Flat	1	126	1,994
Gondola	0	1,093	3,179
Hopper	0	329	8,902
Cov. Hopper	185	99	1,382
Refr.	0	213	1,267
Stock	0	0	0
Tank	31	203	1,201
Caboose	0	8	30
Other	0	42	223
TOTAL	317	2,407	27,757
Car builders	187	1,179	5,424
Railroad and private car line shops	130	1,228	22,333

LOCOMOTIVES

► **Norfolk & Western Orders 268 Diesels.**—Orders to implement the N&W dieselization program (RA, June 30, p. 31) are as follows: Electro-Motive will supply 192 GP-9 1,750-hp diesel units (16 for passenger operation); Alco Products will furnish 40 T-6 1,000 hp switchers and 36 RS-11 1,800-hp road switchers. Beginning October, 1958, Alco will deliver four units a month and Electro-Motive 12 units a month.

► **311 New Units Installed in First Six Months.**—Class I railroads installed 311 new locomotive units (all diesel-electrics) in the first six months of 1958, according to the AAR. In the same period of 1957, they installed 735 units—731 diesel-electrics, four electric. New locomotive units on order July 1 totaled 134, of which 104 are diesel electric, the rest gas turbine-electric units. On July 1, 1957, Class I railroads had 462 new units on order (432 diesel-electric and 30 gas turbine-electric).



LAST STEAM RUN: Eastbound "Pocahontas" enters Roanoke, Va., yard with Class J engine 608, the last steam it carried before the changeover.



FIRST DIESEL RUN: Westbound "Powhatan Arrow" stops at Roanoke under diesel power for the first time. The N&W rented diesels for five runs.

Steam Vanishes From N&W Passenger Runs

The steam-powered passenger train—once the nation's chief form of public transport—all but vanished into the pages of history last week.

Almost too quickly for steam fans to mourn the event, the Norfolk & Western substituted diesels for steam locomotives on:

- The "Powhatan Arrow"—trains 25 and 26 between Norfolk, Va., and Cincinnati, Ohio.
- The "Pocahontas"—trains 3 and 4 between Norfolk and Cincinnati.
- The "Cavalier"—trains 15 and 16 between Williamson, W. Va., and Petersburg, Va.

- The "Cannonball"—trains 21 and 22 between Norfolk, Va. and Richmond.

- Trains 5 and 6 between Bluefield, W. Va., and Norton, Va.

All but the last two had been powered by the N&W's celebrated Class "J" locomotives. Trains 5 and 6 used Class "E" power.

Only one N&W passenger train still had its steam engine—and it was a passenger train in name only. This was the mixed local (one passenger coach) running on a nine-mile branch between Blacksburg and Christiansburg, Va. Its Class "M" locomotive, built in 1907, was also due for replacement—possibly by week's end.

While Canadian roads still use some passenger steam power, the N&W has for years been known to U. S. rail fans as "the last pocket of steam." A few weeks ago, however, the N&W announced it would order 268 diesels during the next 30 months at a cost of \$50 million, to complete dieselization (RA, June 30, p. 31).

But the end of steam in N&W passenger operations came sooner than some had expected. The diesels used in the switch-over completed last week were leased by the N&W—four 2,250-hp units from the Richmond, Fredericksburg & Potomac, and eight 2,000-hp units from the Atlantic Coast Line.

Conciliation Board Studies Contract-Out Case

The railroad industry may get its first "outside" appraisal of a growing management-labor sore point—work contracted out—in a forthcoming Conciliation Board report in Canada.

The issue is involved in the long-standing dispute between six Canadian roads and Railway Express and the 15 non-operating unions. Union demands on wages, vacation provisions, statutory holidays, severance pay and the contract term are also in dispute. But the deadlock over contracting out railroad work should take on particular significance in view of the parallel situation—never resolved—in the United States.

At present, the situation is this: Canadian railway management will, on occasion, have certain work performed by outside agencies where management feels such

work needs to be handled that way because of economy, quality or a saving in time, or where special techniques or special equipment are a factor.

The unions propose that contracts for work normally performed by railway employees—or similar work which by past practice has been done by railway labor—should not be awarded to outside agencies.

During hearings on the dispute, the carriers contended that a restriction on award of contracts to outside firms would interfere with efficient and economical operation and might cost "millions of dollars" in added expense.

This same battle—over work performed off the property—has raged off and on in the U. S. for several years, without quite reaching the explosion stage. Recent indications, however, point to a stiffening of

labor's attitude toward the whole subject.

- Michael Fox, president of the Railway Employees Department, AFL-CIO, declared in St. Louis recently that the railroads are "foolishly" spending money to have work performed by outside firms.

- Labor has raised the national defense issue, questioning the security aspects of centralization of equipment repair and rebuilding off the carrier's property. The world situation being what it has become in the past several weeks, the industry can expect to hear more along this line.

The Conciliation Board report in Canada won't settle the issue for the U. S. Actually, its report won't be binding even on the immediate parties to the dispute. But it may give an indication of independent thinking—in Canada—on an issue which isn't any less touchy in the U.S.

Japan: A 'Super Railroad' by 1964?

A system of "super railroads" may be in the cards for Japan. The first step in this direction—a proposed \$540-million rail line linking Tokyo and Osaka—is expected to get Japanese government approval by fall.

If all goes well, five-and-six car MU trains should be tearing off the 320 miles between Tokyo and Osaka at an average speed of 106 mph by 1964.

And this may be just the beginning, a high-ranking Japanese Railways official told *Railway Age* last week. According to I. Kawamoto, vice chief engineer of JNR's home office, Japan's railroad needs are growing so fast that they will double by 1975 (they have quadrupled since 1936). The nation now has a traffic density such that 80 trains a day run on some single-track lines. The Japanese people each ride the rails an average of 46 times a year.

These are some of the reasons why the government recently budgeted \$900,000 for an aerial survey to find the shortest route between Japan's two largest cities. And this is why a proposal is currently before the Diet asking for an appropriation of \$540 million to build a standard-gage line between the two cities that will slice some 10 per cent off the present rail distance of about 320 miles (Japanese trains at present run on 3 ft 6 in. narrow-gage tracks). Under the plan, JNR would raise from 30 to 40 per cent of the cost; the rest would come from the government.

Mr. Kawamoto sees such a super railroad as the only logical answer to the already-overburdened rail facilities of his country. He believes that higher-speed trains running on higher-capacity standard-gage tracks may eventually be in the cards for most of Japan.

Mr. Kawamoto pointed out that passenger and freight traffic between Tokyo and Osaka alone are expected to increase by 2 and 2.3 times respectively by 1975.

At present, about 30 passenger trains a day make the 7.5-hour Tokyo-Osaka run. There are also many freights. When the proposed line is finished, it is anticipated that more than 60 passenger trains a day each way will make the run in about three hours. Fast freights, running at night (and including piggyback cars) could cover the distance in 5.5 hours. The passenger trains, Mr. Kawamoto said, would have a maximum speed of 156 mph.

Although the route would necessarily traverse rugged, mountainous country, numerous tunnels and bridges would make possible a maximum grade of 1 per cent.

Power on the proposed line would be all electric, according to Mr. Kawamoto.

Railroading



After Hours with

Jim Lyne

AND NOW JAPAN—As you will have noted above, the Japanese are planning to build a standard gage "super-railroad" between Tokyo and Osaka. Technological advances are available which would permit such railroads to become a commonplace—rather than the rarity they actually are. It is all a question of which kind of transportation plant a country decides will get the necessary allocation of investment funds.

The last time anything of this spectacular size was proposed in the U.S. (as I recall) was the project of the late L. F. Loree—back in the twenties—a high-standard railroad under and over the Alleghenies.

The U.S. used to lead the world in railroad innovation and advancement before the government got to pouring all the tax money in sight into highways, river improvements and airports. It's a hard job—competing with a public treasury as big as Uncle Sam's.

INTERURBAN HALF-CENTURY—The Chicago, South Shore & South Bend recently celebrated its fiftieth anniversary, being one of the few interurbans which have been fortunate enough to have so long a life. The road has had good management and a lot more private right-of-way than most interurbans. Also, it succeeded in getting into the freight business to a greater degree than most electric lines did.

I am optimist enough to believe that suburban electric lines have not yet seen their maximum development—because big cities can't thrive under the present increased ratio of reliance on private transportation. The big cities have got to improve the quality of their public transportation, or they will die. So far, they're spending most of their money on highways—which don't solve the problem, but often make it worse.

FOR THE BOSS—The eminent psychiatrist, Dr. Bill Menninger of Topeka, has written "a prescription for the executive"—in the current issue of the *Menninger Quarterly*. He recommends that companies provide periodic "emotional check-ups" for executives. He says: "All of us have

'bad days', but how frequently do his occur? Does he lose his temper? Is he so immature that he has to have what he wants when he wants it?"

Dr. Bill asks other similar searching questions, and asserts that the boss is "a symbolic father, whether he likes it or not" and that he must seek emotional maturity. I suspect there are two schools of thought on this question. What's been your observation?

RAILROADS' BRIGHTEST SPOT—Visually, the most cheerful aspect of the railroads this year, I think, is the bright paint a lot of them are using on their freight cars. And the attractive lettering that you can make out a long way off is good too. This trend hasn't reached its zenith either—other roads have plans.

It may be risky to express preferences—and unfair, too, because I haven't seen all the cars there are. I'll stick my neck out far enough, though, to venture the opinion that, of the various shades of red, the one the Great Northern is using is hard to beat for visibility.

Some months ago I got to discussing the question of what railroad first started using really big lettering on cars—and I came out of that argument slightly the worse for wear. Aside from size, there's a question of design. Most of the big lettering now in use is not only easier to read, but it is also more pleasing to the eye. I am partial to paint as a public relations instrument.

PIGGYBACK PHILOSOPHY—A fellow who thinks as hard about piggybacking as anybody I know puts it this way: Either it costs more to move a trailer on a flat car than it does to move it over the highway, or it costs less. If it costs more, then there's no justification for piggybacking. If it costs less (as of course it does), then why shouldn't the economy be reflected in lower rates?

The shipper and consumer would benefit in lower transportation costs. The railroad would benefit from more business (at a profit). Highway users would benefit from less congestion and lower highway costs. Anything wrong with this thinking?

Transport Act Now Set for Final Approval

Final passage by Congress of the proposed Transportation Act of 1958 is expected to come this week.

The Senate-House conference committee has completed its work of reconciling the differing provisions of the Senate-passed Smathers bill and the House-passed Harris bill. The conference committee's report was scheduled to be filed in both branches of Congress by the end of last week or early this week.

Conference reports have priority status, so prompt approval, sending the bill to the White House, was anticipated. While Administration spokesmen have objected to some provisions of the proposed act, there has been no threat of a veto by President Eisenhower.

The conference report, which embodies the final version of the proposed act, covers all matters dealt with in the Senate and House bills.

A modified version of the Senate-bill provision giving the ICC additional power over intrastate rates is in the conference report. It also has provisions giving the ICC new power over train-service abandonments, rate-freedom and loan-guaranty sections, and provisions which tighten the Interstate Commerce Act's agricultural exemptions and sharpen its definition of private carriage.

As determined by the conference agreement, the new act will have these provisions:

1) **The rate-freedom section.** This was

the same in both Senate and House bills, so it remains unchanged in the conference report. It will tell the ICC that rates of a carrier "shall not be held to a particular level to protect the traffic of any other mode of transportation, giving due consideration to the objectives of the National Transportation Policy."

2) **The loan-guaranty arrangements.** Under administration by the ICC, these will authorize federal-government guaranty of loans to railroads to finance capital investment in road and equipment, and for maintenance work. To approve guaranty of a loan, the commission must find (a) that the road couldn't otherwise obtain the needed funds on reasonable terms; (b) that the term of the loan will not exceed 15 years and the rate of interest is reasonable; (c) that the borrower's prospective earning power and collateral provide reasonable protection for the government.

There will be a \$500-million limit on the total of loans outstanding at any time, and the authority to guaranty will expire March 31, 1961, except that applications pending on that date may be granted. Any carrier with a guaranteed loan for maintenance may not pay dividends while any part of such loan remains unpaid.

Except for the maintenance loans, there will be no guaranteed loans for operating expenses. However, the conferees did reject House-bill provisions which would have limited a maintenance loan to 50% of the amount charged for maintenance in

the preceding year and required ICC findings that substantial deferred maintenance existed and that the borrower had provided assurances that proceeds of the loan would be used "only to raise the annual level of maintenance expenditures over the average annual level of such expenditures during the period when maintenance expenditures were being deferred."

3) **The new ICC power over train-service abandonments.** Without reference to state commissions, this will give the ICC authority to authorize abandonment of trains or ferries which operate from points in one state to points in another state. It will also give the ICC power to authorize abandonment of a train or ferry operating wholly within a single state, after the interested state regulatory authority has had opportunity to deal with the matter.

In the latter connection, it will be provided that if a state commission does not act on a train-abandonment application within 120 days, or makes an adverse decision, the railroad may file an abandonment application with the ICC. The ICC will receive the application on an original-jurisdiction basis, not as a case appealed from the state authorities. The federal commission will then pass upon the application, considering the effect of the proposed abandonment on the public convenience and necessity and the burden on interstate commerce which continued operation would impose.

These same general tests will be applied by the commission in considering applications for abandonments of interstate train services. The conferees rejected the Senate bill's provision which said that an ICC order requiring continuance of a train service would have to be accompanied by a finding that the continuance would not result in a net loss to the carrier. The ICC advised the conference committee that this would have had the effect of transferring effective control of train-service abandonments "to the carriers themselves."

Also omitted from the conference report is the House bill's call for a study of the railroad passenger deficit by the ICC in cooperation with state commissions. Two years ago the commission on its own motion instituted such an investigation which is virtually completed.

4) **The additional ICC power over intrastate rates.** This is designed to expedite the bringing of intrastate rates into line with interstate adjustments. It will also overcome the restrictive effect of recent U.S. Supreme Court decisions in the Milwaukee and Utah cases. They held, in effect, that rates on part of an intrastate operation cannot be condemned as an undue burden on interstate commerce unless it can be shown that the intrastate operation as a whole is an "undue burden on interstate commerce."

The provisions to expedite intrastate rate increases are designed to end the ICC's policy of "comity," i.e., its prac-



Locomotives Begin Long Haul to Brazil

First four of 100 locomotives purchased by the Rede Ferroviaria Federal of Brazil from General Motors Overseas Operations are shown as they reach the

seagoing stage of their journey. The units were shipped to New York on flat cars and were lifted directly from the cars to a ship.

tice of awaiting action by state commissions before instituting an investigation of intrastate rates. Thus, upon complaint, the federal commission will be required to institute such an investigation "forthwith," and expedite it.

5) The tightened agricultural exemptions. Generally, these will freeze the exemptions as presently determined by the ICC and courts, except that they will bring under regulation the trucking of these commodities: frozen fruits, frozen berries, frozen vegetables, cocoa beans, coffee beans, tea, bananas, hemp, imported wool,

wool tops and noils, or wool waste (either carded or spun, woven or knitted) and fish and shellfish which have been treated for preserving, such as canned, smoked, pickled, spiced, corned or kippered products.

The absence of salted fish from this list means that its transportation will remain free of regulation. The conference report also provides specifically for exempting the trucking of cooked or uncooked (including breaded) fish or shell fish, and fresh or frozen products thereof.

6) The definition of private carriage.

This will incorporate into the Interstate Commerce Act the so-called primary-business test for distinguishing between private and for-hire carriage. It is designed to curtail buy-and-sell operations and other schemes for performing for-hire trucking under the guise of private carriage. It says that no person engaged in any other business shall transport property in interstate or foreign commerce "unless such transportation is within the scope of and in furtherance of a primary business enterprise (other than transportation) of such person."

People in the News

CANADIAN NATIONAL.—G. W. Keefe, superintendent, Montreal terminals and St. Jerome division, transferred to Smithers division, Prince Rupert, B.C., succeeding W. H. McIlroy, named superintendent at Port Arthur, Ont. Mr. McIlroy succeeds Ernest Cutts, appointed superintendent, Portage-Brandon division, Winnipeg, Man.

Maurice Irving, traveling freight agent, Vancouver, B.C., appointed district freight agent, Brandon, Man., succeeding H. Muir Dawson, transferred to Vancouver.

Appointments in express department at Montreal, P.Q., include: Charles S. Loughheed, traffic manager; James H. Matthews, superintendent—foreign services, succeeding Frank L. Bresce, named system supervisor—equipment.

CANADIAN PACIFIC.—Bert Cockburn, chief clerk to local treasurer, appointed assistant local treasurer, Winnipeg, Man., succeeding Robert Collier, retired.

R. J. Harden, general agent, passenger department, London, England, appointed general passenger agent there, succeeding L. F. Leonhardt, who retired June 30. F. L. Burton succeeds Mr. Harden and H. K. Williams replaces Mr. Burton as assistant general agent, London.

A. M. Fraser appointed acting general manager, Prairie Region, Winnipeg, Man. D. M. Dunlop named general superintendent, Alberta district, Calgary, Alta.

CHICAGO GREAT WESTERN.—H. E. Moran, general car foreman, Oelwein, Ia., appointed assistant superintendent motive power and equipment there, to succeed G. H. Johnson, retired. H. P. Lukehart named to replace Mr. Moran.

A. E. Smith, assistant chief engineer, Oelwein, Ia., appointed chief engineer there, succeeding J. H. Sawyer, resigned. Assistant chief engineer position abolished.

DENVER & RIO GRANDE WESTERN.—William J. Holtman, assistant to chief mechanical officer, Denver, appointed chief mechanical officer there, succeeding Arthur E. Rice, who retired June 30.

EASTERN RAILROADS PRESIDENTS CONFERENCE.—William A. Catanach, assistant chairman, New York, retired July 1, after almost 48 years of continuous railroad service.

ERIE.—Office of A. W. Meinke, manager, mail, baggage and express traffic, Chambers Street, New York 7, has been moved to 115 Observer Highway, Hoboken, N.J.

NEW YORK CENTRAL.—T. M. Hayes, field signal engineer, Eastern district, Rochester, N.Y., appointed general signal inspector, Western district, Cleveland, succeeding E. C. Jackson, named assistant general signal inspector, Cleveland. Mr. Jackson replaces O. H. Steffens, appointed assistant signal supervisor, Cleveland signal district, Lake division, Cleveland, succeeding E. W. Homann, transferred.

R. F. Lawson, assistant district engineer, Cleve-

land, promoted to district engineer there, succeeding L. Bristow, transferred. A. Matthews, Jr., staff engineer, New York, succeeds Mr. Lawson.

J. W. Hobb, assistant to general manager, Eastern district, Syracuse, appointed supervisor freight transportation there, succeeding L. J. Sheils, retired. J. F. O'Connell appointed assistant transportation superintendent—labor relations, Mohawk division, Albany. J. J. Bowes named trainmaster, East Syracuse, succeeding G. E. Raynor, appointed assistant transportation superintendent—labor relations, Syracuse. L. M. Lawrence named trainmaster in charge of DeWitt Yard, N. Y. Abolished positions of terminal superintendent and trainmaster at Rochester, formerly held by Messrs. O'Connell and Bowes.

E. P. Frasher appointed assistant to general manager—labor relations, Boston & Albany division at Boston, Mass., succeeding W. Fisher, deceased. Position of transportation superintendent, St. Lawrence-Adirondack division at

Watertown, N.Y., formerly held by Mr. Frasher, has been abolished.

C. F. Hunt appointed division engineer, Ohio Central division, Columbus, Ohio, succeeding, R. J. Hardenbergh, transferred.

R. H. Miller appointed lubrication engineer, New York, succeeding M. M. O'Neill, resigned. R. T. Tomlinson, temporary lubrication engineer, transferred to other duties.

PACIFIC ELECTRIC.—H. J. Walker elected president. Chairman of the board position abolished.

WESTERN MARYLAND.—J. S. Eaton, assistant to general purchasing agent, promoted to assistant general purchasing agent.

OBITUARY

Sir George Bury, 92, a former vice president of the Canadian Pacific who was knighted by Britain for his railway work in Russia and France in World War I, died July 20 in a hospital in Vancouver, B. C.

Floyd A. Poling, 54, division engineer of the Wheeling & Lake Erie District of the Nickel Plate, with headquarters at Brewster, Ohio, died July 20.

Wheel Slip (Continued from page 23)

voltage, its current falls off and it is relatively easy to stop the slip. Motors Nos. 2, 3 and 4 continue to carry load, usually without exceeding the adhesion limits of their wheels, and frequently after passing the slippery spot, the wheels driven by motor No. 1 will have enough adhesion to stop the slip.

When a diesel-electric locomotive has six motors, some increased stability may be obtained by the use of paralleling connections as shown in Fig. 3. If motor No. 2 slips with this arrangement, it loses its power, but motor No. 1 only loses a fraction along with Nos. 3 and 5, and there are still five motors working to haul the train. This arrangement does not have all the advantage of full parallel connections, but it has been tried and the railways have found that the mid-point cross-connection considerably increases locomotive stability.

It is, of course, necessary at transition to open the cross-connection with two contactors as indicated. The cross-connection would apparently be of no value on locomotives having only four motors.

As shown in Fig. 4, if motor No. 2 slips, most of the current through motors Nos. 1 and 3 will go through motor No. 4, and it will then slip also.

It would appear, therefore, if brake control of wheel slip is to be used on existing locomotives, that some fast automatic control would be a requisite.

Toy trains are now equipped with magnets to keep them on the tracks. Magnetic action has also been used to increase traction on rapid transit cars which were equipped with track brakes. In this case, the track brake shoe was blocked up so it could not touch the rail and the magnetic attraction used to provide the equivalent of additional weight. Magnets which involve wheels and axles would, of course, have metal moving in a magnetic field resulting in the generation of some heat. There seems to be an opinion among operating men that the use of magnetic action to increase adhesion should be explored, but in view of the size of the rail and the space available, possible benefits would appear to be limited.

You Ought To Know...

Four midwestern carriers—North Western, Milwaukee, Minneapolis & St. Louis, and Monon—have won authorization to cut rates on shipment of bituminous coal from Indiana and Illinois mines to the Wisconsin River valley district in Wisconsin. Other western roads are expected to reduce rates in proportion. The ICC approved the new rates despite opposition from eastern railroads and Wisconsin dock operators.

Pullman-Standard's Butler, Pa., plant, idle since late in May, is back in business with the recall of 500 employees. Reason is construction of 125 PS-2 jumbo covered hoppers—100 for the Burlington, 25 for North American Car Corp. The cars, with 3,219 cubic feet capacity, are reportedly the first all-welded cars of this size to be built. They'll be used for transporting malt and grain products.

First of the Milwaukee's fleet of 1,000 new 50-ton box cars was scheduled for delivery last week (July 21-25). The full order will be in service by the end of August. Overall, the road's 1958 equipment program will include acquisition of 1,605 freight cars and 10 road switchers. Total 1958 investment in new equipment: \$18.5 million.

"Railroad Police" is the title of a dramatic series being filmed by Flamingo Telefilm Sales. The factual stories are being taken from the files of the Protective Division of the AAR. The series will be filmed with the cooperation of every railroad in the U. S. and Canada.

A complete investigation of the various types of paper grain doors is being made by the Midwest Shippers Advisory Board. At the Board's recent Milwaukee meeting, several grain shippers said they believed paper grain doors are in part responsible for a 22.6 per cent increase in losses of bulk grain in transit in the first three months of 1958. A report is due in October.

An appeal to stockholders has been made by New York Central as part of its regular annual meeting report. On the inside back cover of the 14-page report, Arthur E. Baylis, vice president—freight sales and service, asks shareowners to help obtain freight shipments for the railroad. A card is enclosed for forwarding tips on such business to the NYC.

A \$1-million building is planned to house railroad car cleaning and painting facilities at the Huntington plant of American Car and Foundry division of ACF Industries, Inc. The present paint shop will be torn down to make way for the modern one-story building. It will be 650 feet long, 97 feet wide, and will have approximately 63,000 square feet of floor space.

Nine college scholarships for 1958-59 have been awarded to the sons and daughters of Pennsylvania employees. They went to the daughter of a car repairman helper and the sons of a laborer, a leverman, a crew dispatcher, a fireman, a conductor, an assistant train master, an assistant general solicitor, and a former assistant to the general manager of transportation.

Heavy rains sent rivers on the rise last week in parts of Missouri, Kansas, Nebraska, Illinois and Indiana. Landslides delayed Missouri Pacific's "Southerner" south of St. Louis; MoPac also had washout troubles on its Crete, Neb., subdivision. Water closed several Missouri highways; washouts hit Burlington and Wabash. Rainfall totaled 4 in. in parts of Iowa and Missouri, almost 5.5 in Nebraska.

"Texas Railways" is the name of a new publication designed by its sponsors—members of the Texas Railroad Association—to "keep friends of the railroads informed of the progress and the problems of the transportation industry." The first issue includes stories on railroad legislative problems and alleged "featherbedding" in the industry.

Wheat crop forecasts for the Pacific Northwest are looking up. Based on early July crop conditions, estimators see a crop yield in Washington and Oregon of about 101 million bushels, 5% above 1957 levels and 4% over the average for the past 10 years.

George M. Harrison, president of the Brotherhood of Railway Clerks, has been appointed a member of the American delegation to the 13th session of the United Nations General Assembly, which opens Sept. 16. President Eisenhower sent the nomination to the Senate for confirmation last week.

No significant upturn in business is yet visible, says Pennsylvania Vice President—Finance David C. Bevan, but "we're optimistic, long-term." Mr. Bevan said the Pennsy had an operating loss in June for the eighth straight month and "July has been worse than anticipated."

A five-mile Monorail system may furnish transportation for the "Century 21 Exposition," slated for Seattle in 1961. Negotiations are under way with Monorail of Houston, Texas, for a suspended rail system that will carry visitors to and from the fair.

Fulfillment of a bid made last year by two Cincinnati men for property of the defunct New York, Ontario & Western has been decreed by the United States Court of Appeals. It was ruled that Sidney G. Rose and Philip L. Moskowitz cannot withdraw from the \$2.3 million transaction by defaulting their deposit of \$575,200.

Railroad construction put in place in June totaled \$30 million, according to the Commerce and Labor Departments. This was a decrease of 9 per cent from the \$33 million of June, 1957. Railroad construction for the first six months of 1958 was down 15 per cent from last year's similar period for a total of \$160 million.

Rio Grande and the atom are coming together more and more. Ray McBrien, the road's director of research, has been named to the U.S. Chamber of Commerce committee on commercial uses of atom energy. With five years of experience in irradiated fuels, Rio Grande's Denver lab recently was given a contract to study the effects of radiation on rocket and missile fuels by the Army's Redstone Arsenal.

Iowa taxes paid by Chicago & North Western for 1957 will amount to \$1,085,018. Of this, more than half—just short of \$600,000—will go to Iowa's schools. The total includes taxes for the former Omaha road in addition to those of C&NW proper.

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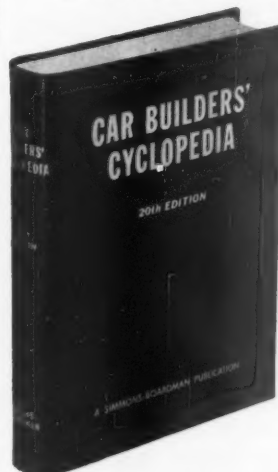
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Major Help from Suppliers

The year 1958 has witnessed no event of greater promise to the future of the railroads than the organization of railroad suppliers for effective political action.

Some railroaders—approaching their suppliers for support of legislation pending in Congress—have not infrequently been surprised to find some of them better organized than railroads themselves.

This activity, begun so auspiciously this year, should be established on a permanent footing. There's still a long legislative road to travel before the railroads attain the full opportunity to grow and progress—that other industries enjoy.

The suppliers' political activity in behalf of legislation to remove some of the railroads' handicaps had its origin among individuals prominently affiliated with the Railway Progress Institute—formerly the Railway Business Association. The RPI is not itself a political organization—and, of course, the Institute has not engaged in political activity. Instead, an informal committee for education on pending legislation was set up, apart from the Institute as such. Many individuals and companies, not members of the Institute, participated. And, by the same token, no member of the Institute who did not want to engage in this activity was under any pressure to do so.

By this approach, the temporary committee for political activity was composed only of enthusiasts—a decided advantage. Moreover, the activity the committee engaged in was entirely out in the open and above-board. As we observed it, it did not involve “lobbying,” in the unpopular sense of the term, but consisted in a factual presentation of

information at the “grass roots” level about the necessity of healthy railroads to local well-being.

Owners and employees of railroad equipment and supply companies have an even greater stake in railroad prosperity than railroad owners and employees have. When the railroads suffer hard times, their traffic and employment may decline (say) 25%—but this same degree of depression may well reduce the production and employment of a supplier by 75% or more.

This paper has long advocated militant and intelligent organization of railroad suppliers—in their own interest, as well as in that of the railroads. Modesty does not restrain us from the belief that we have contributed, through the pages of our publication and otherwise, to the great strides that have now been taken in this direction.

The suppliers of other agencies of transportation have certainly not been backward in advancing the interests of their customers. Indeed, until comparatively recent years, it was the truck manufacturers—rather than the truck operators—who carried on most of the political propaganda in behalf of truck transportation.

Neither the railroads nor their suppliers have asked for one single act of political favoritism for the railroads. Instead, their program is wholly one in behalf of removal of outmoded restrictions on the railroads—a hang-over from the days of monopoly. The railroads and their friends have sought and are seeking no special treatment—indeed special treatment (of an adverse kind) is precisely what they're trying to get rid of.

We hope the Railway Progress Institute, as such, will adhere to its non-political policy. But that it will continue to provide a dynamic meeting ground for suppliers; and that it will encourage them, on their own, to press forward politically.

RAILROADS CAN HELP: Railroad managements have their strongest allies, actual and potential, in their suppliers and supply company employees. Railroad management can help this movement along by finding out which suppliers have been particularly active and effective in this direction, and making known their appreciation. And, if they approve of organizations of suppliers which are doing so much to advance the common cause, they should let that fact be likewise publicized. Political action put the railroads behind the 8-ball, and only political action can remove them from that position. And suppliers have a place on the team.



NYC's Robert R. Young classification yard at Elkhart, Indiana has eight nine-track units—a total of 72 tracks that can provide "soft-touch" handling of 3,540 cars a day. Okonite Type CM Cables are the connecting links that help keep the yard's electronic "thought center" automatic—and profitable.

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